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# East Europe Report

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8 DECEMBER 1986

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AGRICULTURE

YUGOSLAVIA

ESTIMATED 1986 PRODUCTION, STATUS OF AGRICULTURE

Belgrade PRIVREDNI PREGLED in Serbo-Croatian 8 Oct 86 p 5

[Article by Vlastimir Popovic: "Estimated 1986 Results; Relatively Good with Incentives"]

[Excerpt] The production level in the agroindustrial complex in unsatisfactory as regards physical output volume and achievement of the desired financial outcome of operation.

The physical output level has been marked by a very slow rise. In individual years and for individual sectors and products, production has stagnated or even declined resulting in a shortage of some basic agricultural food products, a lack of export commodities, and larger imports of these products.

In the agroindustrial complex as a whole the financial outcome of operation has deteriorated considerably, especially over the last 2 years. In live-stock raising the situation is so bad that losses predominate in the aggregate outcome.

The fundamental reasons for the losses are first of all the disparity in prices of the industrial product inputs for the agroindustrial complex. These prices are rising rapidly in comparison to the prices of agricultural food products, which are subjected to the most extensive regulation by administrative process and are not in line with the costs of industrial products. Secondly, there are the enormous outlays for interest on working capital, the linear use of which fails to take the specific nature of agroindustrial production into account.

Exports of agroindustrial food products are declining. In comparison to 1985, for example, they have dropped about 7 percent in 6 months of 1986, amounting to around 400 million dollars.

Imports of such products have increased in the first 6 months of 1986, for example, by 12 percent, amounting to around 600 million dollars.

1986 Production Estimates

A very concise account of previous developments will be given, including the period up to fiscal year 1986. The physical volume of agricultural output

has been marked by a very low growth rate over the period in question, as is shown by the following figures:

1976-1980	1.9 percent
1981-1985	0.9 percent
Over the 1981-1985 period crop production increased by	1.0 percent
Over the 1981-1985 period livestock production increased by	1.2 percent
The food industry grew at a rate of	2.3 percent

Although no 1986 production volume estimates can be made for the agroindustrial complex as a whole, projections may be made for individual sectors or products for the first 6 months on the basis of statistical data or of production estimates made by official institutions, associated labor organizations, etc.

In crop production, wheat production amounts to 4.799 million tons, 1.3 less than in 1985; corn production is estimated to be 12.148 million tons, 22 percent more than in 1985; sugar beet production has dropped from 6.248 million tons in 1985 to 6.032 tons in 1986, declining 3.5 percent; sunflower production is expected to be 429,000 tons, 83.3 percent higher than in 1985 (234,000 tons); soya production is estimated to be 223,000 tons, 28.2 percent higher than in 1985.

In livestock production, the number of heads of cattle as of 15 January 1986 was in the aggregate 3 percent lower than in 1985, and that of cows and pregnant heifers 2.6 percent lower, the number of swine in the aggregate 8.9 percent lower, that of sows and suckling pigs 5.1 percent lower, that of sheep 0.2 percent higher, and that of poultry 10.7 percent higher.

The following table gives the percentage of livestock fattened and slaughtered in the first 6 months of 1986 relative to the first months of 1985.

	Livestock fattened	Livestock slaughtered
Total cattle	91	84
--young fattened cattle	89	87
Total hogs	83	84
--hogs for meat	81	83
Total sheep	76	92
Total poultry	122	121

#### Exports Less Imports Equal Priority to Raw Materials

The total value of exports of agricultural food products from January to June 1986 amounted to 399,369,000 dollars, that is, 93 percent of the volume of such exports over the same period in 1985.

Imports rose during this 6-month period by 12 percent relative to 1985, amounting to 592,513,000 dollars.

Imports were offset by exports to the extent of 67 percent, 14 index points less than last year (81 percent).

The agricultural food product export program for 1986 was fulfilled only to the extent of 34 percent during the first 6 months of 1986.

An increase in exports relative to last year has also been registered for farm crop products, by 44 percent, and for fish industry products, by 31 percent, but there has also been a significant decline in exports of livestock products, by 31 percent, in industrial fruit products by 73 percent, beverages by 16 percent, and food products by 21 percent.

There has been an appreciable drop in exports of individual products, such as young cattle, slaughter horses, young beef and canned meats, as well as seed corn, prunes, and wine, along with significant rise in exports of mercantile corn. This demonstrates the unfavorable structure of exports.

Export incentives have increased considerably over those of 1985. Taxes have also been imposed on imports of agricultural food products in order to protect domestic production and equalize income earning conditions (SLUZBENI LIST SFRJ, No 35/86), with the stipulation that the revenue collected on this basis be utilized to encourage primary production, finance commodity reserves, and stimulate exports of agricultural food products.

Export and import conditions have been established for 1986 and priorities have been set for imports of raw materials and semimanufactures (high-protein livestock feed, spare parts, etc).

#### Financial Outcome Determined by 2 Groups of Factors

The financial outcome of operation in agriculture and the food industry has deteriorated, and over the last 2 years in particular. Losses in 1984 were 4 times higher than in 1983 and 2.6 percent greater in 1985 than in 1984. Losses have increased by a factor higher than 10 in the agroindustrial complex over the last 2 years, while they have only doubled during the same period in the economy as a whole.

During the first 6 months of 1986, losses in agriculture were at the 1985 level, but increased by 56 percent in the food industry. This represents a certain tendency toward moderation in comparison to the total economy, in which losses have risen 97 percent.

Two groups of factors represent the fundamental causes of these losses. First of all, the disparity between industrial and agricultural prices has increased in primary distribution, to the detriment of agriculture. The costs of semimanufactures for agriculture have risen more rapidly than the prices of agricultural products (taken as the index), as is shown in the following table.

	1983	1984	1985
Costs of semimanufactures for agriculture	151.5	155.6	154.6
Costs of agricultural products	145.6	144.3	160.0

Secondly, there is the linear non-selectivity in application of real economic categories. Such application is accompanied by enormous outlays for interest. By way of example, the interest on working capital in relation to individual incomes is shown in the following table.

	Interest on Working Capital in Relation to Revenue		Interest on Working Capital in Relation to Individual Incomes	
	Jan-Jun 1985	Jan-Jun 1986	Jan-June 1985	Jan-Jun 1986
Economy	24.5%	28.0%	78.0%	73.1%
Agriculture	96.0%	94.0%	160.0%	162.0%
Food industry	72.7%	70.0%	172.0%	166.0%

A number of measures and actions have been taken to relieve the enormous interest burden on agriculture.

#### Economic Policy Measures

Differential interest rate solutions have been adopted in the decision amending and supplementing the decision on the goals and tasks of the collective issue and monetary policy and the collective principles of credit policy in 1986 and the decision on the rates of interest on investments with primary-issue money.

All investments for selective financing programs have been exempt from bank investment restrictions. No limits have been imposed.

Primary-issue money for stocks of agricultural and food products may be utilized by production organizations for a period of up to 60 days with the stipulation that the financing of stocks is to continue in commercial organizations and in the case of commodity reserves and by producers of goods for capital replacement purposes.

The rediscount rate has been raised for the duration of the harvest and wheat procurement period.

Indemnification has been instituted for interest on working capital, 10 percent for production and stocks of wheat, corn, sugar beets, oil seed, tobacco, and artificial fertilizers, and 20 percent for cattle, hogs, and sheep, and milk product reserves. The total effect over the July-December 1986 period will be 28 billion dinars.

#### Prices, the Market, and Reserves

A number of measures have been taken in the price sector. First of all, the decision on protective prices of basic agricultural food products for 1986 (23 June 1986) has been amended with the parity prices set earlier retained. Protective prices have been established for basic agricultural food products for 1987 (15 September 1986). Decisions have been made regarding the procedure to be followed in setting prices for sugar, oil, milk, flour, and meat.



A supplement to the law on the elements of the commodity reserve system has increased the possibility of elaborating a unified system of administration of commodity reserves of agricultural and food products for the purpose of balancing supply and demand and of stabilizing the market and prices also of semi-manufactures (the system is now under development). A contract has been concluded on organized procurement of wheat grown in 1986.

A law has been enacted on indemnification for costs of agricultural fertilizers, plant protection agents, and seed material for 1986, and a draft amendment to law is in preparation to approve indemnification for users of semimanufactures for 1987.

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ECONOMY

INTERNATIONAL AFFAIRS

GDR, USSR HOLD 11TH JOINT ECONOMIC SESSION, S&T PROGRESS CITED

Themes, Delegations Introduced

East Berlin WIRTSCHAFTSWISSENSCHAFT in German Vol 34 No 10, Oct 86 pp 1441-46

[Text]The 11th session of the Joint Commission of Economists of the USSR and the GDR at the Academy of Sciences of the USSR and the GDR (commission of USSR/GDR economists) took place in Berlin from 26 May to 1 June 1986. Its scientific theme was: "Tasks and experiences in accelerating scientific-technical progress at the new level of combining science and production."

Content and course of this session were characterized by the determination emphasized by the general secretary of the SED Central Committee, Erich Honecker, and by the general secretary of the Central Committee of the CPSU, Mikhail S. Gorbachev, in February 1986 on the occasion of the 27th Party Congress of the CPSU, "to further deepen relations between our parties and states at the levels of party, state and society, and to cooperate actively in realizing the complex program of CEMA and further strengthening the unity and unanimity of the socialist community. Our two countries are jointly working on great projects of the future, as contained particularly in the long-term program of cooperation in the areas of science, technology and production to the year 2000." (Footnote 1) (Report of the Central Committee of the Socialist Unity Party of Germany to the 11th Party Congress of the SED, reporter: E. Honecker, Dietz Verlag, Berlin 1986, p 14)

This fraternal connection of the SED and the GDR with the CPSU and the Soviet Union, reaffirmed at the 11th SED Party Congress in April 1986, was also expressed in all the papers, discussion contributions and exchange of experience presented at the 11th session of the commission of USSR/GDR economists on the focal points and methods of accelerating scientific-technical progress in the USSR and the GDR. At the center were the tasks to be solved in the GDR in realization of the resolutions of the 11th SED Party Congress, and in the USSR in realization of the resolutions of the 27th Party Congress of the CPSU.

After the 11th session was opened by the chairman of the GDR delegation of the commission, Academy member Professor Dr Dr h c Helmut Koziolk, with a discourse on the subject of "The economic strategy of the 11th SED Party Congress and the new stage of combining science and production," the main lectures by both sides were presented to the commission. The major lecture of the USSR side of the commission, by Y.I. Kapustin/V.P. Loginov, dealt with "raising the effectiveness

of social production in the USSR on the basis of accelerating scientific-technical progress." The main lecture of the GDR side of the commission was given by Professor Dr H. Kusicka on the subject of "tasks and experiences in accelerating scientific-technical progress at the new stage of combining science and production."

Beginning with the opening discourse and the two main lectures of both sides of the commission, a total of 19 short papers were up for discussion in the course of the scientific exchange of opinions and experiences. Four additional contributions to the discussion were available as written conference material (B.S. Milner, Y. Shirayev, G.A. Vlaskin and G. Friedrich).

The opening speech and the main lectures by both sides of the commission are published in the present issue of WIRTSCHAFTSWISSENSCHAFT. Also published in this volume are a contribution by the general director of the VEB Elektro-Apparate-Werke Berlin-Treptow "Friedrich Ebert" and a summary survey of the discussion contributions to the 11th session.

The contributions of the Soviet delegation were based on the strategic line of the 27th CPSU Party Congress, which provides on the basis of greater intensification of production, and raising of quality and effectiveness "that a transition to an economy of highest organization and effectiveness, with all-round developed productive forces, matured socialist production conditions and well-coordinated economic mechanisms is to be effected." (Footnote 2) (Political report of the Central Committee of the CPSU to the 27th Party Congress of the Communist Party of the Soviet Union, reporter: M.S. Gorbachev, Dietz Verlag, Berlin 1986, p 35)

As the most important means of realizing this strategic line, the 27th CPSU Party Congress listed scientific-technical progress and the fundamental restructuring of society's productive forces and stressed that the party sees the road to decisive changes "in the comprehensive modernization of the economy on the basis of the latest scientific-technical findings, top performances in the leading directions of scientific-technical progress, and in restructuring economic mechanisms and the managerial system." (Footnote 3) (Ibid.)

All contributions by the GDR side of the commission were shaped by the tasks deriving in the GDR from the new quality of the economic strategy of the 11th SED Party Congress and aiming at combining the advantages of socialism even more effectively with the achievements of the scientific-technical revolution. The new quality of the economic strategy decided by the 11th Party Congress for the second half of the 1980's and beyond is primarily expressed in the broad application of key technologies. These key technologies, such as microelectronics, modern data processing, computer-based projections, construction, production preparation and implementation, flexible automatic processing systems and other technologies, are not an end in themselves, but means to an end. Ultimately, their application is always in aid of

--acceleration of the tempo of increasing work productivity;

--comprehensive intensification of production with even greater effectiveness and social effects, which make intensification the fundamental basis of performance increase and permanently secure the necessary economic growth;

--acting even more purposefully under the laws of economy and time.

In this process of broad application of key technologies, the decisive role is played in the GDR by the combines of industry and construction industry. Increasingly, they are emerging as the broadest economic base for economic application of the achievements of the scientific-technical revolution in its new dimensions, as required by the continuation of the political course of unity of economic and social policy to the year 1990 and beyond. In particular, mastery of key technologies demands a new level of combining science and production with the combines at its center. Together with the institutions of the Academy of Sciences of the GDR and universities, they organize the battle for top positions. The growing intellectual potential of the GDR, the main source of which is the highly developed, unified, socialist education system, is gaining ever greater influence on all these processes. (Footnote 4) (See "Report of the Central Committee of the Socialist Unity Party of Germany...", op. cit., p 49 f)

On the basis of complete agreement of both sides of the commission on all questions relating to the paramount importance of accelerating scientific-technical progress and its greatest possible application for further organization of the developed socialist society in the GDR and the USSR, the 11th session of the commission of USSR/GDR economists discussed a great number of tasks, experiences and problems of great interest to both sides.

Among others, thematic focal points of the scientific exchange of opinions at the 11th session of the commission of USSR/GDR economists were the following:

- GDR experiences in further strengthening the socialist planned economy through purposeful perfection of the system of management, planning and economic accounting and its total adaptation to the requirements of comprehensive intensification;
- the decisive role of the combines in implementing the economic strategy of the 11th SED Party Congress, in which they are the backbone of the socialist planned economy of the GDR under conditions of comprehensive intensification;
- the tasks and experiences in management, planning and economic stimulation of scientific-technical progress in the USSR;
- the role of combines in the GDR in the accelerated development and application of key technologies, and in implementing the new stage of combining science and production;
- the management and organization of transsector research in the USSR and the GDR;
- the economic significance and the tasks and experiences of the combines in the GDR in developing their own construction of rationalization means;
- the combination of scientific-technical progress and constant improvement of the workers' living and working conditions;
- the tasks and experiences in political and technical preparations of the workers and management cadres for new production techniques and new technologies;
- the tasks, experiences and problems in assessing the economic effectiveness of using industrial robots and modern machine systems.

The Soviet delegation was led by the chairman of the USSR part of the commission, Professor Dr Y.I. Kapustin, corresponding member of the Academy of Sciences of the USSR and director of the Institute for Economics of the Academy of Sciences of the USSR. Other members of the Soviet delegation were: N.M. Golovanev, State Committee for Inventions of the USSR; Professor Dr D.M. Karpukhin, Institute for Economics of the Academy of Sciences of the USSR; Dr B.P. Krasnoglasow, Institute for Economics of the Academy of Sciences of the USSR; Professor Dr A.N. Lyussov, prorektor of the Academy of Economics of the Council of Ministers of the USSR; Professor Dr V.P. Loginov, Institute for Economics of the Academy of Sciences of the USSR; Dr P.A. Sedlov, Institute for Economics of the Academy of Sciences of the USSR; Professor Dr M.N. Timokhin, Academy for Social Sciences of the Central Committee of the CPSU; V.M. Vardul, Institute for Economics of the Academy of Sciences of the USSR, scientific secretary of the USSR part of the commission.

The GDR delegation of the commission was under the leadership of its chairman, Professor Dr Dr h c H. Koziolk, member of the Academy of Sciences of the GDR and director of the Central Institute for Socialist Economic Management at the Central Committee of the SED. The following participated in the scientific discussions: Professor Dr F. Haberland, Central Institute for Socialist Economic Management at the Central Committee of the SED.; Professor Dr H. Hanspach, director of the Central Research Institute for Labor; Professor Dr K. Hartmann, first deputy to the rector of the party college "Karl Marx" of the Central Committee of the SED and director of the Political Economy and Economic Sciences sector; Professor Dr W. Heinrichs, corresponding member of the Academy of Sciences of the GDR and director of the Central Institute for Economic Sciences of the Academy of Sciences of the GDR; Professor Dr L. Hummel, Central Institute for Socialist Economic Management of the Central Committee of the SED; Professor Dr W. Kunz, corresponding member of the Academy of Sciences of the GDR and deputy director of the Central Institute for Socialist Economic management of the Central Committee of the SED; Professor Dr H. Kusicka, director of the research department of the Ministry for Science and Technology; Professor Dr W. Marschall, Central Institute for Economic Sciences of the Academy of Sciences of the GDR; G. Muth, head of the labor and wages department of the national board of directors of the Free German Labor Union Federation (FDGB); Professor Dr W. Ostwald, head of the research office for regional planning of the State Planning Commission; Professor Dr E. Prager, director of the Institute for Political Economy of Socialism of the Academy of Social Sciences of the Central Committee of the SED; Professor Dr W. Salecker, Central Institute for Socialist Economic Management of the Central Committee of the SED--scientific secretary of the GDR side of the commission--; Professor Dr H. Schieck, vice president of the Academy of Agricultural Sciences of the GDR; Dr E. Schmidt, science department of the Central Committee of the SED; Professor Dr G. Scholl, head of the Economic Research Institute of the State Planning Commission; Professor Dr G. Winkler, director of the Institute for Sociology and Social Policy of the Academy of Sciences of the GDR.

On 27 May 1986, the participants of the commission of USSR/GDR economists learned about the work of the CAD/CAM demonstration center of the Central Institute for Socialist Economic Management of the Central Committee of the SED, which had been visited by M.S. Gorbachev, general secretary of the Central

Committee of the CPSU, on the occasion of his attendance at the 11th SED Party Congress on 20 April 1986.

On May 29 and 30, 1986, the Soviet delegation had the opportunity to visit the VEB combine "quality and refined steel" in Brandenburg and the VEB combine Elektro-Apparate-Werke "Friedrich Ebert" in Berlin-Treptow, and to gain insight into the tasks and experiences of these combines in accelerated development and application of key technologies at the new stage of combining science and production.

As a result of the consultations at the 11th session of the commission of USSR/GDR economists, the following task sets and development processes, of particular importance for economic scientific research in both countries, were worked out jointly:

- purposeful implementation of the unity of economic and social policy on the basis of high economic growth through comprehensive intensification of society's production;

- acceleration of increased work productivity in all sectors of the economies of the USSR and the GDR through an ever more effective combining of the advantages of socialism with the achievements of the scientific-technical revolution;

- an ever more effective use of the achievements of the scientific-technical revolution, having itself reached a new stage, in which microelectronics, modern data processing and computer-based projections, construction, production preparation and implementation more and more determine the performance capabilities of the economies and where other key technologies are spreading in close interaction with them, such as flexible automated production systems, new processing methods and materials, biotechnology, nuclear energy and laser technology;

- the development of productive forces, occurring ever more rapidly on an international level, and the resultant demands on accelerated development and application of key technologies on the economic level and with great economic effectiveness;

- the new stage of organically combining science and production, which is particularly necessary in conjunction with the broad application of key technologies;

- the increasing importance of further deepening and perfecting the socialist economic integration, in particular collaboration between the USSR and the GDR within the framework of a comprehensive research and production cooperation, also increasingly aiming at joint development and effective application of modern key technologies.

Both sides of the commission agreed that the joint research on the subject "ways to accelerate the growth of work productivity," carried out according to uniform methods since 1983, had been successfully concluded with the preparation of appropriate scientific materials. Both sides emphasized the usefulness of such joint work and agreed to continue this form of cooperation in the future. As of 1987, focal points of joint research will be tasks and experiences relating to acceleration of scientific-technical progress.

Based on the documents and resolutions of the 11th Party Congress of the SED and the 27th Party Congress of the CPSU, the 11th session of the Joint Commission of

Economists of the USSR and the GDR progressed in the proven atmosphere of a friendly, open and creative exchange of opinions and experiences of closely allied collectives of scientists of fraternal socialist countries.

The 12th session of the commission of USSR/GDR economists will take place in the USSR in May 1987 with the topic of "acceleration of economic and social development through comprehensive intensification of society's production." The preliminary plan of topics for the annual meetings of the commission until 1990 includes sessions on the following themes:

- "Intensification of agricultural production on the basis of accelerating scientific-technical progress"
- "Raising the effectiveness of socialist production through further deepening and perfecting socialist economic integration"
- "Man and scientific-technical progress."

#### Participants' Contributions Reviewed

East Berlin WIRTSCHAFTSWISSENSCHAFT in German Vol 34 No 10, Oct 86 pp 1496-1519

[Text] In addition to the main papers of the 11th session of the commission of USSR/GDR economists, 23 discussion contributions focusing on special aspects of the discussion topic were given and discussed. In the following, an overview is given of the main aspects of these discussion contributions.

Karpukhin's arguments focused on questions of increasing work productivity on the basis of accelerating scientific-technical progress. He pointed to the resolutions of the 27th Party Congress of the CPSU, in which raising work productivity occupies the decisive position in realizing the strategic task of accelerating the socio-economic development of the country. The "major directions of economic and social development of the USSR in the years 1986 to 1990 and the period to the year 2000" plan to achieve a general raising of society's work productivity by 2.3 to 2.5 times (5.7 to 6.3 percent annually) and to accelerate the tempo of economic growth on this basis. The total additional growth of national income and production by all sectors is to be secured entirely through increased work productivity, whereby the number of workers in these sectors is to be decreased. This can be achieved only through purposeful intensification on the basis of complete utilization of the achievements of scientific-technical progress. For example, during the 12th five-year plan, two-thirds of the growth of society's work productivity is to be attained through utilization of the achievements of science and technology. Workers thus released from jobs are to be used primarily in the service sector. Simultaneously, this makes a contribution to the implementation of the social program. Under these conditions, this shifts the search for external sources to supply labor for material production to the area of reserves existing within production, ensuring full employment of the population.

Within this over-all situation, scientific-technical progress must assume the leading role. It is the basis for considerably lowering work expenditure for the production of goods. The increasing influence of scientific-technical progress on work productivity caused Karpukhin to deal in more detail with the reciprocal influence and interaction of both. He noted that timely recognition and solution

of tasks in accelerating scientific-technical progress--caused by socio-economic conditions as well as the logic of the development of productive forces--are gaining increasing importance. The economic effectiveness of the new technology is expressed in lower total expenditures for the production of goods and in the growth of work productivity. On the basis of economic effectiveness, socio-economic effectiveness places an additional number of demands on the new technology--such as improvement of working conditions, elimination of heavy manual labor, transforming work into a desirable living condition. At the same time, it is not a matter of indifference at what price this is achieved.

One aspect of solving these tasks consists in the complex mechanization and automation of production. Assessment and rationalization of jobs, based on a respective resolution of the Council of Ministers of the USSR and the All-Union Federation of Trade Unions, was mentioned as one of the prospective methods for accelerating the growth of work productivity. Among other things, assessment of jobs helps

- to redistribute production tasks from outdated and not very profitable jobs to highly effective capacities;
- practical implementation of reconstruction and technical restructuring of existing plants;
- reassessment of existing norms and introduction of technically justified norms of expenditure of material and human labor;
- combining reproduction of fixed assets with efficient use of the labor force;
- evaluation of the technical standard of production means and the level of qualification, as well as creation of measures to purposefully increase the qualification of cadres.

Karpukhin dealt in greater detail with increasing the qualification of workers. He acknowledged the role played by perfecting the planning system, economic incentives, and the organizational structure in accelerating scientific-technical progress and growth in work productivity. At the same time he stressed the necessity for developing fully the potential of human labor as the essentially inexhaustible major reserve.

Hartmann spoke on the role of technology in the concept of utilizing the advantages of socialism in implementing economic accounting. He stressed that two aspects must be taken into account in particular:

- the growing role of man as the major productive force in mastering the scientific-technical revolution,
- the massive introduction of key technologies, which in the long term are necessary for the comprehensive intensification of the economy.

Only in this way can the major task be solved in its unity of economic and social policy. He emphasized a number of experiences:

- Key technologies lead to an enormous increase in work productivity, to savings in materials and lowering of energy costs with a simultaneous improvement of man's working and living conditions. It is evident in practical life in the GDR that implementation of key technologies leads to greater top performances in the economy. At the same time, the aspect must be considered that the need for faster implementation of key technologies arises from the economy's own requirements as well as from the confrontation with imperialism.



In view of the endeavor of imperialism to gain military-strategic superiority over socialism through a technological lead of several years, mastery of key technologies has literally become a question of life, a question of survival of all mankind.

--Practical consequences for the combines consist in increasing strategic work, finding different solutions, and above all, carrying out calculations of variants. This holds true not only for industry but analogously also for development trends in agriculture.

--It has been proven that innovations of a hitherto unknown level emerge from findings of basic research, as is the case in the VEB combine "Carl Zeiss" in Jena, for example. Three ways have proven successful in the republic for the close interlocking between basic research and achievement of top performances:

- a) concentrating the research of the Academy of Sciences, of universities and technical schools on scientific preparation for key technologies,
- b) deepening cooperation between the combines and the Academy of Sciences as well as universities and technical schools,
- c) strengthening basic research by the combines themselves.

--A further experience shows that implementation of modern technologies places much higher demands on the qualification of workers. But jobs with a new work content are also being created, for example, a new type of machine workers or drivers. Practical studies showed that in a microelectronics plant from 1981 to 1985, 60 to 80 percent of the workers had to learn a new and qualitatively higher job. The same development also holds true for the present 5-year plan period.

The numerous examples from industry and agriculture described by Hartmann demonstrate the speed and the extent to which workers must at present be prepared for the new demands resulting from innovative processes.

Lyusev, Yakovich and Arkhangelskiy dealt in their contribution with scientific-technical and economic preconditions for the development and introduction of new generations of technology. The acceleration of socio-economic development decided by the 22th Party Congress of the CPSU demands a decisive turn in the intensification of society's production. For the years 1986 to 1990, and for the period up to the year 2000, the plan is to accelerate the development and introduction of new generations of highly effective technology. It was stressed that the introduction of new techniques and technologies must take into account the satisfying of existing as well as prospective needs of society. The system of planning and management of the economy must also be oriented in this direction. In order to clarify these demands on the managerial system, he dealt with some specific aspects of the renewal process. To secure the continuity of scientific-technical progress in society's production, it is necessary to study the cycle phases in replacing technological generations in order to shorten the period of development and introduction of innovations as well as the time of inefficient operation of outdated technology. The speed and effectiveness of disseminating new generations of technology depend on

--the complexity of their introduction, cooperation between the mutually connected sectors in preparation and introduction as well as attaining an optimal production volume;

--improvement of the structure of goods produced by the machine building industry, their timely renewal and orientation toward the production of machine systems of the highest technical and economic level;  
--the timely and complex new technological equipping and reconstruction of the machine building industry itself.

Management of the development, introduction and dissemination of new technological generations, their creation and transfer into production is characterized by specific economic traits which must be taken into account in planning and management.

An analysis of the economic and technical aspects of innovation processes leads to the conclusion that management and planning of the development, introduction and dissemination of new technical generations should contain as their major elements long-term scientific-technical prognostication and target program planning which covers all stages of development and dissemination of new directions and generations of technology, and should include planned allocation of material and financial resources. Also required are numerous methods of integration of science and production. Science-production associations have become the most common form of such integration. They are to provide new impulses for the acceleration of scientific-technical progress.

Lastly, questions of socialist integration in the area of science and technology were dealt with. Under the conditions of deepening scientific and scientific-technical cooperation of socialist countries, the scientific-technical integration of CEMA countries becomes a necessary prerequisite for the accelerated development, introduction and dissemination of new technical generations in the socialist countries as well as for raising the technical level and the competitive capability of their products in world markets. This is the aim of the complex program of scientific-technical progress of CEMA countries as well as the more effective forms of scientific-technical cooperation between the fraternal countries, developing according to the resolutions of economic consultations at the highest level.

Marschall/Steinitz dealt with utilization of the effectiveness potential of microelectronics in comprehensive intensification. Microelectronics, with its complex range of performances, fits into an entire system of interlocking key technologies. The key position of microelectronics is based above all on the unique combination of longlasting, constantly self-renewing potentials of savings and renovation, extraordinarily great and revolutionizing effects in depth, very broad effectiveness, and complex combination of several factors raising effectiveness. This explains why today, no industrially developed country and no industrial sector can develop successfully independent of impulses from microelectronics. The most important effects are: microelectronics increases tempo and diversity of product innovations; deeply penetrates the efficiency of the applied technological principles and favors the development and dissemination of new principles; creates qualitatively new possibilities of including the non-producing and service sectors as well as individual consumption into scientific-technical progress and turning them into sources of economic growth; leads to a new level of division of function between man and machine, based primarily on the fact that technology also assumes functions and

tasks reserved until now for man, especially mental-intellectual tasks. The development and broad dissemination of microelectronics is linked to a lasting strengthening of the mental-intellectual component of society's reproduction process.

A decisive direction of applying microelectronics is the creation of CAD/CAM systems. Preconditions for their introduction are being created in all combines. This field of applying microelectronics is of special importance for two reasons. First, it creates essential conditions in order to attain great effectiveness in all vertically cooperating levels of implementing microelectronics. Secondly, it effects a time acceleration of the reproduction cycles.

In conclusion, Marschall/Steinitz turned to questions of deepening international cooperation of the CEMA countries in the area of microelectronics. Through the concentration of forces in research/development and in production, the range of products from one's own manufacture is to be kept within limits, and overall, a greater tempo of scientific-technical and effectiveness development is to be attained. Through increased scientific-technical cooperation, high preparation expenditures for development, production and application of microelectronics become effective on a larger production scale.

Starting with the importance of broad application of key technologies in implementing the economic strategy resolved by the 11th SED Party Congress, Salecker's contribution to the topic "increased introduction of computer-based projections, construction, production preparation and implementation (CAD/CAM) in the combines of the GDR--tasks and experiences" gave an overview of topical questions relating to the broad introduction of the CAD/CAM key technology in the GDR.

Standards for the economic effectiveness of CAD/CAM applications are above all:

- shortening the time for development and transfer of new products into production by 50 to 75 percent,
- increasing five-fold the work productivity of planners, design engineers and technologists,
- cutting development costs by half.

At the same time, the party aims at using CAD/CAM technology as a catalyst for achieving a fundamental change in the overall work methods of combines and enterprises and a fundamental acceleration of the process of intensively expanded reproduction in its decisive stages.

Acceleration, rationalization and qualification of activities in the area of production preparation and control, made possible through computer-based data processing, gives combines and enterprises new possibilities of accelerating the renewal process of products as well as increased production flexibility and its capability of reacting to new supply demands for the population, the GDR economy, and exports. The CAD/CAM technology makes possible short offer and delivery terms even for small quantity production as well as quick reaction to specific customer specifications and new market situations in general.

The number of CAD/CAM work stations used in GDR combines and enterprises will grow from 11,200 in April 1986 to about 85,000 to 90,000 by the year 1990. Expressed in these figures, the transition to massive use of job-related modern data processing in production development and control, the broad economic effect of this development, and the expected overall use of CAD/CAM applications--estimated in billions according to preliminary calculations--at present lend special importance to computer-based projections, construction, production preparation and implementation in the realization of the economic strategy of the 11th SED Party Congress. Based on this premise, Salecker outlined in his contribution a number of basic tasks and preconditions for successful managerial activity, standing out among the managerial experiences gathered so far in combines and enterprises. Four fundamental managerial tasks were particularly emphasized:

- political-ideological and technical preparation of workers for the CAD/CAM technology, and their involvement in the process of preparing for its application,
- the conceptual and actual guarantee of the greatest possible economic effects of CAD/CAM projects, which must be measurable by business administration standards,
- purposeful ensurance of the unity of scientific-technical progress in the form of CAD/CAM technology on the one hand, and continuous improvement of working and living conditions of the workers and the conditions of their personality development on the other hand.

Salecker listed the task settings which have become of particular importance for realization of the demands posed by the 11th SED Party Congress:

- constant perfecting of the complex analytical and conceptual work in preparing CAD/CAM projects,
- organization of division of labor and cooperation with the greatest economic effect in securing cross section and sector-typical software,
- complete adaptation of training and continued education of CAD/CAM specialists to the immediate needs of practical life,
- accelerated development of data networks and efficient data banks,
- purposeful utilization of sector-typical CAD/CAM solutions,
- complete adaptation of large areas of work, production and enterprise organization to shortened cycles resulting from computer-based projections, construction, production preparation and implementation.

Prager dealt with current theoretical problems of software production in practical business life. He stressed that microelectronics and modern data processing as key technologies are inseparably tied to software. He also pointed out the differences between hardware (equipment technology) and software (programs and documentation), and that data-processing technology can become effective only through the unity of both.

Efficient production and effective application of software place entirely new demands on the organization of production and labor, in which the advantages of socialism must be deliberately utilized. On the basis of present practical experience, it can be stated unequivocally: the effectiveness of the use of available equipment is determined primarily by the software. This economic

potential of software must be developed determinedly for the greater effectiveness of labor and production.

Prager characterized software in the politico-economic sense as a completely new material product by nature. Software--in contrast with all other known products of intellectual creative work--exists in such a definite material condition as to become directly production effective. As a means of transferring functions of human mental work to technical production, software is also technology; for it is software that determines and implements the work process of data-processing technology. Software under socialist production conditions is manufactured and realized as a product which possesses use-value and value. As the product of predominantly intellectual creative work, software has a high degree of processing improvement and is materialized in codified form as a program on the data carrier; it can be duplicated at will; it can be used many times; and it becomes directly production effective in program form. Software, like hardware, is a working tool, or is used as a consumption means like hardware. Software makes it possible to apply the results of scientific work directly in production processes, in all phases of society's reproduction process and in non-producing areas, and is thus a direct link between science and all sectors of society's work. The characteristic of software--it can be easily exchanged, updated, corrected and expanded--makes it an element of great dynamism in the material-technical base of the economy and as such, determines technical flexibility. The fact that software manufacture is a production process of new quality leads to a number of considerations regarding the perfecting of management, planning and economic accounting.

1. Software is a product, and must be treated as such in planning and accounting.
2. Software is a working tool and must be included in the fixed assets economy according to its characteristics.
3. In setting the price for software, which is manufactured and realized as a product according to plan, those factors must be taken into account which influence its value, particularly its expected multiple use.
4. Through the production of software, by division of labor coordinated within the framework of the economy, the advantages of socialism can be made effective for a decisive improvement in the ratio of expenditure and result of this production.

The further development of productive forces will lead to a progressive increase in qualitative and quantitative demands on software production. Further socialization of production and labor in this area must be planned and organized in such a way that great effectiveness is ensured in production as well as the utilization of software. In order to cope with these demands, it is most favorable to build software production capacities according to the principle of subject knowledge. This means that software should be produced where the appropriate expert knowledge exists.

On the subject of performance assessment and stimulation of university and technical school cadres in the field of research and development, Hanspach emphasized the growing importance of the socialist performance principle for the continuation of the policy of the main task in its unity of economic and social

policy as laid down for the long term by the 11th SED Party Congress. A special focal point for more effective application of the performance principle is the scientific-technical work of the research and development collectives, particularly in industry and the construction industry. Since 1977, performance-oriented salaries have been introduced for the university and technical school cadres of these sectors, establishing a close connection between the performance and salaries of the cadres. A specific form of performance-oriented salaries for university and technical cadres solving economically important research, development and projection tasks is the payment of performance bonuses tied to specific tasks. This is a variable component of the salary, which is determined on the basis of the duties record book for the respective research and development task. At least half of this bonus is tied to fulfillment of the economic and scientific-technical goal settings of the duties record books and is paid only after the successful final defense of the result. In order to stimulate top scientific-technical performances, the effect of performance-oriented salaries must be combined and reinforced with incentive payments of various types (task-specific goal incentive, initiative incentive, year-end incentive). These bonuses are only effective if the close connection between demanding goal setting, performance assessment and stimulation are taken into account.

Duties record books are extraordinarily important for stimulation and performance development in the scientific-technical areas. They must be based on user needs, and the products must be of world standards at the time of their introduction in the market.

To safeguard high goal settings in the duties record books, the pre-setting of minimum demands on the economic and scientific-technical parameters has proven valuable in the combines. Performance of socio-economic measures (for example, facilitation of work) must also be taken into account in the appropriate manner.

Performance evaluation by the managers is of special importance. From the duties record book, every collective and every university and technical school cadre must be given its tasks, be stimulated and periodically controlled. Taking into account the economic effectiveness of projects is also a definite part of performance evaluation. It is important to plan the process of research-development-transfer-production as a unit and to create from the very beginning conditions for an uninterrupted course of the total process.

Based on the positive experience of recent years, the resolution of the Council of Ministers of the GDR of 26 September 1985 on continuation of performance-oriented wage policy created expanded possibilities for an even more effective stimulation of higher performance which are gradually being introduced in combines and enterprises.

Scholl dealt with the management, planning and stimulation of innovation processes. First he turned to the task setting in the directive of the 11th SED Party Congress, namely, to orient science and technology toward accelerated development of key technologies and making them effective in developing the economic performance capability, to substantially increase their dissemination

tempo, and to expand their breadth of application. The aim is to increase the share of those products which, in their scientific-technical and economic parameters, transcend international know-how and will have good results for the economy in the long term.

The combines have a special responsibility for the development and application of key technologies. The results of comprehensive intensification between 1981 and 1985 are characterized by a turn toward higher effectiveness. It was made possible because in combines, science and production are organically linked on the basis of a significant science and research potential, increasingly tied more directly to the economic cycle of combines. For this reason, a focal point of economic strategy consists in linking the science and research potentials of the combines even more closely with the institutions of the Academy, the universities, colleges and technical schools on an economic basis. According to present experience, this research cooperation fulfills the given demands if it is tied into the combines' state plan requirements and ranges from the scientific-technical and economic goal settings to financing and cadre exchange. Through the results of basic research, this cooperation is to contribute to large-scale renewal of production.

Renewal of production--at an average of 30 percent annually, and 30 to 40 percent with consumer goods--is a necessary element of the economic strategy of the national economy. It is a constant process whose scientific-technical and economic level is to be measured against constantly growing international standards. This also places new demands on management, planning and economic accounting in the field of science and technology in the combines.

First, clear economic standards are needed in order to express the contribution to progress in intensification in terms of indices.

Second, it depends on the capability of combines and enterprises to react quickly to new demands, to make the production structure appropriately flexible, to transfer new results of scientific-technical progress rapidly to production, and to market them immediately with high returns.

Third, renewal rates of 30 percent and more require new quality and a much greater measure of stability and flexibility in the internal and external cooperation relations of a combine.

Fourth, rising research expenditures and high initial outlay of funds require a short recoupment period of the one-time expenditure.

Fifth, the role of the education potential, including its consequences for training and continued education of workers in all areas of the combines and enterprises, is growing, since the development and utilization of modern technologies generally demand a high scientific-technical level and qualified cadres in every combine.

Furthermore, there is the task of attaining the highest possible refinement of production through full utilization of qualified labor, thus ensuring the increase in value necessary for the planned increase in national income. A

further important factor of production renewal is a general safeguarding of quality.

In conclusion, Scholl dealt with questions of modernizing fixed assets and related demands on one's own building of rationalization means. He stated: high renewal rates of production depend to a considerable extent on purposeful rationalization of existing production processes through broad modernization of existing fixed assets. The bottom line of investment use consists in combining purposeful utilization of the latest equipment for the introduction of key technologies with the efficient use and modernization of existing fixed assets throughout the entire economy.

Further implementation of the economic strategy objectively requires also a new level of content of one's own construction of rationalization means. It must be developed in such a way that the major part of modernization of fixed assets and the introduction of new products can be realized.

Kunz based his discussion contribution on management and planning of joint scientific-technical projects of socialist countries within the framework of socialist economic integration on the determination, reaffirmed by the 27th Party Congress and the 11th Party Congress of the SED, to further strengthen cooperation between the two parties and countries, and to actively collaborate in the realization of the complex CEMA program and in the further strengthening of unity and solidarity of the socialist community. An important basis for further intensification of bilateral and multilateral cooperation within the socialist community of states is the complex program of scientific-technical progress of CEMA members up to the year 2000. Its fulfillment will serve progress in each of our countries as well as the further strengthening of the entire socialist community.

For the GDR, international scientific-technical cooperation with the USSR is of particular significance for the mastery of scientific-technical progress. In addition to our own efforts, the speed and dimensions of scientific-technical progress make possible an effective solution of the constantly new scientific-technical tasks only through increased strengthening of international cooperation, particularly with USSR party institutions. This is taken care of by the long-term program of cooperation between our two countries in the fields of science, technology and production to the year 2000. Today, there is hardly a combine or large enterprise in the GDR economy that is not tied closely to this cooperation with the USSR. Overall planning in the GDR, the economic plan for 1986, and all appropriations for the 5-year plan 1986 to 1990 aim at purposeful deepening of this cooperation with our partners in the USSR. Of outstanding importance are the tasks of developing and applying key technologies.

There is complex cooperation in five major areas of scientific-technical progress, primarily. They are "electronization" of the economy, complex automation, development of nuclear energy, development of new materials and technologies for their production and processing, and the development and application of biotechnology.



These coordinated major directions of the complex program of scientific-technical progress of CEMA member states up to the year 2000 are the basis for a general increase in work productivity, saving and better processing of resources, material and energy. They not only influence the development of material production, but also bring about hitherto unknown changes in all segments of society. The coordinated task settings of the complex program will also contribute greatly to the solution of global problems of mankind, such as energy supply, environmental protection, etc.

On the basis of the complex program and coordinated major directions, international scientific-technical cooperation is increasingly becoming the starting point for the cooperation of GDR combines with their partners in other CEMA countries, above all the USSR. The high and rising research expenditure for the realization of sophisticated scientific-technical tasks categorically requires multivalent utilization of the results achieved. Any other approach is always at the expense of the effectiveness of the reproduction process. An example of that is microelectronics as a precondition for the electronization of the economy.

A decisive starting point for deepening cooperation is the coordination of technical and economic parameters between the sectors and areas. For example, cooperation with their Soviet partners plays an essential role in the processing concepts of the machine-tool combines.

The combines of GDR industry gathered a number of experiences worthy of emulation in management and planning of scientific-technical cooperation, particularly with USSR partners. Based on these experiences, the new tasks can be solved confronting the CEMA countries in coping with scientific-technical progress. General orientation of the system of management, planning and economic accounting in economic units toward comprehensive intensification of the reproduction process demands from the very beginning a stronger utilization of international socialist division of labor as a significant precondition for effectiveness. Within the framework of their planning activities, GDR combines are working on a special plan of measures for socialist economic integration.

In scientific-technical cooperation, establishing direct relations between enterprises, associations and scientific-technical institutions has proven useful. It is one of the implementing ways of solving the tasks of the complex program of scientific-technical progress of the CEMA member states to the year 2000. Without a doubt, their expansion during the next plan periods will become one of the major ways for mastering the time factor in the reproduction cycle. The system of planning and management of the GDR economy offers the necessary prerequisites for the development of direct relations of combines and scientific-technical institutions with their partners in the CEMA member states.

The contribution by Golovanev on problems and experiences in organizing invention and patent work within the framework of scientific-technical cooperation between the USSR and the GDR was based on the premise that inventions are an important link between science and production. The economic and scientific-technical cooperation in the field of inventions and patents of

CEMA countries takes place within the framework of multilateral and bilateral cooperation. To increase the effectiveness of this cooperation, the executive committee of CEMA formed a standing body in 1971--the Conference of Managers of Offices for Inventions in CEMA Countries. Within the framework of this conference, agreements were drafted and concluded in the name of governments. At present, these multilateral agreements regulate the major questions of cooperation in the field of inventions. For example:

- the agreement on legal protection of inventions, industrial and consumption samples as well as trademarks in implementing economic and scientific-technical cooperation (1973),

- the agreement on unifying the demands placed on exhibiting and filing invention applications (1975),

- the agreement on reciprocal recognition of certificates of proprietary rights and documents of protection for inventions (1976). This agreement provided a simple and economic system of reciprocal legal protection of inventions.

Furthermore, the conference worked out several general guidelines, methodical documents and instructions and recommended them for use. Within the framework of the conference, a long-term program of cooperation of CEMA countries on questions of inventions is being implemented to the year 1990. The main goal of the long-term program consists in creating--taking into account the expansion of scientific-technical and economic relations--the best possible economic, technical, legal and organizational conditions for further development of inventions as a principal source of technical progress, concluding joint developments and research at a high scientific-technical level, and shortening the period from realizing inventions to their transfer into production.

The offices for inventions of CEMA countries, within the framework of the long-term program of support and practical help for the ministries, associations, enterprises and organizations involved in cooperation, pay major attention to the implementation of invention and patent work. In the time passed since the 1971 adoption of the complex program, there has been constantly increasing invention activity in CEMA countries: the number of invention registrations and proprietary right certificates issued is increasing, and the economic profit resulting from transfer of invention is growing. During the period 1971 to 1981, inventions registered in CEMA countries grew by about one-third. Simultaneously it can be noted that the number of technical solutions recognized by inventions is also increasing to a greater extent. Today, the bilateral cooperation between the USSR and the GDR in the economic and scientific-technical field plays a great role in fulfilling the tasks established in the complex program of socialist economic integration. The volume achieved becomes clear by the fact that at present, about 400 to 500 organizations of the USSR and GDR are occupied with elaborating joint undertakings.

Jointly, an entire complex of measures is being realized, ranging from creating conditions for the utilization of modern technological processes to reciprocal deliveries of products. The development of significant joint inventions and their implementation in third countries were the result of the constant attention and support given by the offices for inventions in the USSR and GDR to the ministries for chemical industry in the two countries; and they were the

result of the direct collaboration of these offices in carrying out the respective measures relating to specific projects of cooperation. In recent times, the attention of the offices for inventions of the USSR and GDR is increasingly directed to work carried out within the framework of government agreements, above all agreements in the fields of electric technology, electronics, light industry, agriculture, and the construction industry. Naturally, not only are the experiences applied which were made in the area of invention, patent and licencing work for industrial projects of the USSR and GDR, but also the experiences of cooperation in the field of inventions made with other CEMA countries.

Starting with experiences of scientific-technical cooperation and the higher qualitative requirements of socialist economic integration, in 1981 was confirmed a "regulation for the organization and implementation of invention and patent work for the realization of economic and scientific-technical cooperation of CEMA countries." This regulation contributes to even greater effectiveness and scheduling of invention, patent and licencing work.

The orientation of the 11th SED Party Congress toward continuation of the proven course of unity of economic and social policy was used by Winkler as the starting point of his contribution on the linkage of scientific-technical progress and improvement of working and living conditions. The social aspect of this policy is expressed in the increasing effectiveness of economic development for social progress. In turn, social factors are gaining increasing importance for implementation of the economic strategy. The process of scientific-technical development and comprehensive intensification is combined with the shaping of new work content and working conditions. The far-reaching changes due to scientific-technical progress concern the nature of work and the work activity and production function of man, as well as the easing of work through changed working conditions. Winkler defined socialist working conditions as objective conditions, molded by socialist working conditions and corresponding to material, social and time-related conditions influencing the activities of workers in factories; they affect their performance capability, creative activities, health, satisfaction of basic needs, and thus their standard of living and way of life. All experiences prove that the organization of working conditions and the changes in work content in the process of scientific-technical progress increasingly exert a stimulating effect on performance attitudes and willingness to perform. In this context it is important that the responsibility of enterprises for realizing social goal settings be increased and that a higher degree of complex solutions be attained in organizing working conditions. The responsibility of combines and enterprises includes not only the responsibility of state managers, but also the purposeful collaboration of workers in shaping working conditions as well as the high demands on work discipline, order and safety at the work place.

Key technologies offer the possibility of changing working conditions in such a way that the physical and health stresses still existing for some of the workers can be noticeably reduced or eliminated, respectively. Special possibilities for improving working conditions are available through the use of industrial robots and computer-based jobs. In all projects of introducing key technologies, clear goal settings must be worked out from the very beginning

for the new production process from the aspect of new demands on working conditions. This requires treating the improvement of working and living conditions as a simultaneous task of equal importance with the economic and technical parameters to be attained. The shaping of economically and socially effective working conditions is to be attained less through belated special planning (for example, in the plan section concerning working and living conditions), but must increasingly be solved as a component of research and development of projections and construction. For this, existing Scientific Labor Organization potentials and future users must be included from the beginning in preparing projections and construction.

Socialist development in all socialist countries has produced a high qualification potential. Emphasis on the high qualification potential is of extraordinary importance for the development of economic performance as well as for the forming of all-round educated personalities. Simultaneously, demands on greater availability are growing. In coming years, availability and mobility will become necessary social prerequisites for economic growth. As is known, the socialist concept is based on the premise that personality development and higher qualification necessary for implementing scientific-technical progress are combined with each other. The focal point is on attaining project-related continued education.

Whether the individual is aware of it or not, socialist personality traits develop above all in and through socialist competition. In connection with scientific-technical progress, changes in working conditions and work content are an important experience which stimulates attitude, social activity and competitive initiative.

In his contribution to the effective linkage between science and production in the socialist agriculture of the GDR, Schieck started from the premise that the economic strategy also proved correct in agriculture, as supported by the results of the years 1981 to 1985. Schieck proved this with the help of a number of facts which led not only to stable foodstuff supplies for the population, but also to a significant reduction in fodder imports. He stressed that these results were achieved only through the switch to comprehensive intensification in agricultural production. The comprehensive, purposeful and decisive application of scientific-technical progress proved to be the major source for the increase in performance and effectiveness. Essential steps toward a closer linking of science and production were taken. Simultaneously it was emphasized that the attained high degree of education of cooperative farmers and workers in agriculture is an essential precondition for the development of their creativity and for the successful application of scientific-technical progress in agricultural production.

In order to strengthen and further expand the progress achieved, increased production of plant products and their highly efficient processing and use in animal production occupies a place of priority. This compellingly demands further acceleration of scientific-technical progress and increasing its complexity ranging from research to application in production, in order to penetrate scientifically and economically the entire reproduction process in plant and livestock production.

Based on international development trends, but also on our first national experiences, the economic effectiveness of science for comprehensive intensification of agriculture in the long term is molded more and more by new key technologies such as microelectronics, communications and biotechnology. First experiences with application of microelectronic-technical means to control processes in agricultural work in plant production, livestock production, greenhouses and storage buildings indicate that such solutions open up broad possibilities of better responding to the biological requirements of soil, plant and animal in mechanizing procedures. Combined with the process-specific use of microcomputers, fundamental changes are occurring in the production procedures of plant and livestock production. Simultaneously, an enterprise-related use of microcomputers is taking place for the computer-based solution of tasks of production preparation, management, planning, accounting and control in LPGs, VEGs, and their cooperations.

For agricultural research, Schieck listed two focal points for the application of microelectronics in order to carry out much more effectively the transfer of scientific and technical findings into agricultural production. First, there are revolutionizing possibilities for the utilization of physiological and agro-ecological findings regarding yield and performance for controlling plant and livestock production. Secondly, new possibilities are opening up for research results of an informational nature (performance parameters, process organization, etc.). As an example, a number of electronic data processing projects were pointed out, such as fertilizer recommendations, pest control, irrigation advice, fodder planning and distribution, etc., which have been applied in GDR agriculture for many years.

Schieck devoted much space to experiences and findings of an economically effective combination of agricultural science and agricultural production. General starting points are effective management, planning and coordination of a great number of central, sectoral and regional scientific institutions, economic authorities and enterprises, and creating such linkages corresponding to the degree of socialization of agricultural enterprises including their cooperative institutions. Of the focal points discussed in detail, only one is to be stressed here: the experiences of progressive LPGs and VEGs make it clear that, ultimately, full utilization of the economic potentials of scientific-technical progress requires a high level of socialist business administration. This results in the demand that the economists of enterprises cooperate even more closely with natural scientists and technical experts and, based on the latest scientific-technical findings, develop business administration tools suitable for effective use in LPGs and VEGs.

Sedlow spoke on perfecting economic methods in managing scientific-technical progress in industry and dealt especially with business administration questions to increase the effectiveness of the new technology. He presented proposals, in order to take into better account the different effects of the new technology in the period of transfer and in its full production effectiveness on the profitability of enterprises through perfecting the planning system. Based on the priority of societal interests, the new and highly effective technology, necessary for the national economy, must be advantageous for the enterprise, association, and the sector. This includes effective material stimulation of

workers of all establishments and enterprises participating in the development and production of the new technology.

In order to get the full effect of economic tools of the economic management system on the acceleration of scientific-technical progress, it is necessary to take into account the special traits of the transfer process. This holds true for planning normatives, the index system, financing and price formation, as well as material stimulation. Sedlow presented a number of proposals for discussion, which are to lead to a strengthening of economic management methods for the acceleration of science and technology. For example, to increase the pressure on raising the technical standards of products, for practical planning he proposes dividing the products of the highest quality classification into two groups: those which correspond to the best foreign scientific-technical results, and those which are above these results. For this he also proposes two additional indices: one for the specific share of products corresponding fully to international standards, and one for the competitiveness of the products. Other points of discussion dealt with planning for the complex development of sectors, the use of goal programs, and the application of differentiated normatives for the development and transfer of the new technology as well as questions of financing and control, and yardsticks for stimulating introduction of the new technology.

The discussion contribution by Friedrich dealt with tasks and possibilities of combines in linking science and production, and acceleration of scientific-technical progress. The combines and their enterprises occupy a key position in the process of attaining top performances and accelerating scientific-technical progress in production. As the party congress emphasized, they are the backbone of our socialist planned economy. The development of the combines represent essential steps of perfecting socialist production conditions in order to make more room for the dynamics of the production forces. The development of the combines' performance capability, largely closing the cycle of intensively expanded reproduction, provides decisive conditions to implement the tasks in the new stage of realizing the party's economic strategy and to permanently safeguard comprehensive intensification. Friedrich pointed out that connected tasks in the second half of the 1980's will lead to further structural changes of the reproduction process and to significantly higher demands on the level of socialist business administration and business organization in the combines. This will place new demands on the qualification of management, planning and economic accounting on the basis of the principle of democratic centralism. He elaborated the processes providing essential impulses for the shaping of the entire cycle of intensively expanded reproduction in the combines.

The use of modern data processing technology, particularly the development of CAD/CAM systems, increasingly becomes a precondition for keeping in step with product renewal, reaction to customer demands, and the internationally customary time limits for preparation of offers on the world market. In many cases, computer-based preparation and management of production also prove to be an important precondition for full utilization of the economic possibilities of flexible automation of production.

One's own production of quality-determining ancillary supplies is of fundamental importance for securing intensively expanded reproduction on the basis of key technologies. The fact that between 1981 and 1985 we succeeded in increasing considerably the share of machines with microelectronic equipment of the total production of polygraph machine building and of textile machinery is primarily due to the Polygraph and Textima combines, which built up the enterprises "Polygraph-Elektronik" and "Textima-Elektronik," thus creating the essential preconditions in their own reproduction process. The quantitative, and above all, the qualitative development of one's own building of rationalization means has become the hub of mastering the renewal process. It is the decisive link for implementing many scientific-technical achievements.

Every combine faces the task of organizing in the best possible manner the overall process of the fastest possible economic utilization of new scientific-technical findings. High renewal rates and rapid transition to new product generations require close linking of product development and market preparation. For this reason, a number of combines have begun, parallel with duties records books in science and technology, to use product-related sales concepts or "duties records books of marketing work," respectively.

In recent years, the dynamics of demand and scientific-technical innovation processes has caused many combines to abandon traditional lines of specialization of enterprises and to search for new solutions in order to react more promptly to special customer demands. For instance, preconditions were created in order to have parallel production of certain parts of the goods range in several combine enterprises, if necessary, so as to organically combine the serial manufacture of standard products and components with individual production according to special customer demands.

Strict economic yardsticks must be applied to the further development of specialization and cooperation within and between combines. The development between 1983 and 1985 showed which reserves must be opened up for the acceleration of the reproduction process through reduction of inefficient cooperation relations. Overall, higher demands on the levels of business administration and organization in combines are an expression of those processes of socialization of production and labor which must be advanced according to plan in connection with the stormy development of productive forces.

In his contribution on the significance of regional conditions for the economically most effective use of the research and development potential in the GDR, Ostwald focused on the reciprocal relations between combines and regional conditions in the new stage of organic linkage between science and production. The context results from the fact that essential conditions for scientific-technical progress--and for all material production--are always tied to specific locations. This is also true for all working and living conditions of workers in the broadest sense.

Ostwald explained the role of regions from the aspect of research cooperation between enterprises and institutions of the Academy, universities and technical schools. He emphasized that the region has a decisive influence on implementation of key technologies. Economic, technical, social and ecological

problems interlock in the region. He demonstrated it with the example of cooperation within the framework of the region between the VEB combine "Carl Zeiss" Jena and the Friedrich Schiller University in Jena. Its basis is the advantage of socialist production conditions, in which enterprises and institutions in their region can cooperate with each other as planned for the effective use of their own and the region's resources as a part of the economy as a whole, independent of their being subordinated to different ministries. In practice, this advantage is increasingly better used in the socialist planned economy of the GDR.

Ostwald then dealt with the economic results of regional rationalization through collaboration of enterprises, socialist cooperatives and other establishments with local government authorities. He stressed the responsibility of local government authorities under the law governing local people's representations in the GDR. With the example of Potsdam bezirk he explained the tasks, work methods and results of cooperation council "Science and Technology." The primary goal is to use or create, respectively, all the preconditions in order to fulfill, in a timely manner and of good quality, the tasks to be solved in the region under the government plan for science and technology. Furthermore, cooperation in the region also serves

- the inter-company production of rationalization means, including mutual rationalization assistance of enterprises and institutions in the region;
- the better utilization, maintenance and modernization of fixed assets existing in the region;
- the collaboration of enterprises and institutions in lowering expenditures for energy, raw materials, and transportation;
- the further improvement of working and living conditions of the workers and all citizens in the region.

Under these focal points, achieving high economic and social effects of scientific-technical progress stands in first place. He stated: cooperation between government and industrial authorities in the regions also promotes a high performance and effectiveness development in production as well as social life in cities and villages. The economic and social effects accruing from this cooperation are of importance not only in the individual bezirks, kreises and cities, but increasingly also for the entire economy. They are an indispensable contribution to comprehensive intensification.

The starting point of Timokhin's contribution to economic safeguards of scientific-technical progress was the statement that the CPSU considers it a priority task to adapt the economy fully to the acceleration of scientific-technical progress. The great importance which the Communist Party of the Soviet Union places on these questions results from the fact that, at present, long-term trends are developing which will determine the economic structure of the country as it enters the next century.

Of particular importance for accelerating scientific-technical progress are the efficient use of finances and loans and perfecting the system of pricing and economic stimulation in introducing scientific-technical results. Timokhin subdivides the economic levers for accelerating the development of science and technology into two groups: first, those directly available to the state, such



as centralized budget funds, investments, national normatives for pricing, and material and moral stimulation of introduction of the new technology; secondly, economic stimuli within the framework of economic accounting, whose utilization lies in the jurisdiction of the ministries, associations, enterprises and organizations. In recent years, the share of self-financing has grown. This also corresponds to the line taken by the 27th Party Congress. Simultaneously, there must be a balanced relationship with the national budget financing, since it concentrates the funds on the most important directions of scientific-technical progress.

Investments are a decisive source of financing. With their help, rapid development of the various sectors and areas is ensured and the production structure perfected. At the April plenary session (1985) and the 27th Party Congress of the CPSU, the task was formulated to concentrate investments more determinedly on the economic directions of scientific-technical progress.

Price formation plays an important part in accelerating scientific-technical progress. In recent times, a number of measures were taken in this area in order to create more favorable conditions for those enterprises introducing a new, highly effective production. It is planned to make prices for new technology more dependent on its effectiveness and utility value. For this, projected prime costs, the limit price and economic effectiveness are to be established already in the projection stage of new products. If, in comparing the limit price and the utility value of the new product, it is found that the given costs do not produce the necessary economic effect, the manufacturers must alter the construction solutions in order to lower the product's prime costs and improve its qualities of utility value. The principle is that inefficient technology must not be used in production. At the same time, price hikes (of up to 30 percent) were established for products of the highest quality classification as well as price reductions for technical products no longer fitting this quality classification.

It is important that all economic levers for the acceleration of scientific-technical progress be perfected. They aim at stimulating work collectives to apply the technology which secures the increased quality and technical standard of the product to be manufactured, a high growth rate of work productivity, more rapid reduction of prime costs, increased profits, and savings in all production resources. In this part of his contribution, Timokhin turned to questions of stimulating researchers, developers, design engineers, producers and users of the new technology.

In conclusion, Timokhin stated that, to accelerate scientific-technical progress, there are still great reserves in the use of the advantages of the socialist planning system. This also applies to reserves to be opened up through the more comprehensive utilization of the possibilities of socialist economic integration.

In his contribution, Haberland spoke about experiences in the management of science and technology in GDR combines. He proceeded from the premise that science and research potentials existing in combines were directly linked with the economic cycles of these economic units. This is the key to the success of

comprehensive intensification in the GDR. For this reason, the relatively closed reproduction process in combines must be organized in such a way that the higher level of socialization becomes the source of economic effectiveness. Haberland dealt with three focal points:

- the responsibility of combines for the performance and effectiveness development of the economy through scientific-technical performances at a high creative level,
- organization and management of science and technology in combine and enterprise,
- planning and economic accounting in the field of science and technology in combines and enterprises.

Haberland presented a broad range of proven performance experiences for all three focal points; for example, generalizations on the organization of management relations in combines in order to secure high economic effectiveness of science and technology through its complex and efficient management.

An essential component of perfecting management of science and technology consists in the close linkage between planning of science and technology and economic accounting. In this context, integration of science and technology in the reproduction process within the science and technology plan was treated extensively, such as: the role of long-term conceptual work, processing concepts, the performance offer of science and technology, the overall economic account, and the end-of-year accounting of science and technology. The end-of-year accounting provides conclusions to be drawn both by the combines and the respective supervisory ministries with regard to further increasing the effectiveness of scientific-technical work and for the comprehensive utilization of its results.

Krasnoglasov dealt with the connection between central state planning and the initiative of the basic production units in planning the new technology in the USSR and stressed the theoretical and practical importance of this subject in the transition to the intensive reproduction type. He sees the theoretical aspect in the necessity of strengthening central state planning in the field of science and technology for further development of the economic system of actual socialism, at the same time expanding the rights, responsibilities and initiative of the economic units. The goal is to make industry highly receptive to scientific-technical progress through the perfecting of planning at all levels, and to arouse a high degree of interest in all members of the economy. Before he turned in detail to practical questions of planning for science and technology, he stated unequivocally: the strengthening of central state planning is not an alternative, but rather a necessary condition for broad effectiveness of initiative and true independence of the work collectives as well as for activating the creativity of the individual worker. Initiative and growing autonomy of the production units must in particular be directed at lowering the expenditure of human and mechanized labor per unit of planned societal useful value, and maximal satisfaction of the needs of society's members.

Krasnoglasov then characterized the advantages of the system of planning scientific-technical progress as it evolved in the USSR. It contains the totality of plans, linked with each other or subordinate, for the development of

science and technology at various levels of industry, which differ according to the location of their implementation, content, details, term of life, and the system of the planning authorities (national, sectoral, regional). In essence, this system ensures the linkage between central management and operative autonomy of the lower productive and scientific-technical units. On the basis of this system, already proven in practical life, Krasnoglasov made his proposals for combining central planning methods with the development of self-responsibility and the activity of the economic units in realizing the plans of the new technology.

Much space was given to the system of "order intake." It is based on the necessity that the lower production units must have very clear and unequivocal orders for the new technology to be produced. With the aid of the "order intake" system, time losses were eliminated at many stages of the science-production cycle. It is, however, essentially oriented toward the needs of the sectors and their lower economic units. For this reason it is a matter of expanding this system to inter-sectoral cooperation.

Starting with the resolutions of the 27th Party Congress of the CPSU, he presented further proposals for strengthening centrally planned management in the inter-sectoral machine building complex. He also dealt with questions of perfecting the normative base and planning the renewal process. In the latter case, he also referred explicitly to positive experiences of combines in the GDR. Lastly, there was also agreement with the opinion that the qualification of planning scientific-technical progress depends not only on the producers of the new technology, but also on their users.

Hummel noted in his contribution to the preparation and qualification of workers in introducing new products and technologies that in the economy of the GDR, decisive subjective preconditions for the development and wide introduction of new products and technologies into production have been created through a purposeful education policy. He proved this with a number of facts on the qualification structure of working people in the GDR. For example, 84.3 percent of all people employed in socialist industry have completed their occupational training. This potential is of decisive significance for economic advancement and for the material and cultural standard of living of people. One of the essential sources of a great economy is qualified labor, and implementation of the highest scientific-technical level. This is why the 11th SED Party Congress concentrated on ensuring "top performances by top experts" as well as a broad base in occupational training and constant continued education for workers in direct preparation for, and implementation of, innovation processes, particularly with regard to key technologies. Hummel then explained in detail the three major roads to the planned qualification of workers:

- the basic polytechnical training of 10 and 12 years;
- technical training at colleges and technical schools as well as company occupational training schools;
- qualification in the work process, continued vocational training, and acquiring additional knowledge and specialized know-how in combines and their enterprises.

What is significant in all the roads to qualification is the purposeful orientation toward the demands placed by scientific-technical progress on the practical life of industry. Through expert vocational commissions of the combines, competent representatives of practical life are directly included in the development of qualification and curriculum proposals appropriate for present and future requirements. Of particular importance is the preparation of young people for the new technology, for automation in general, and computer-based construction and production management in particular. For this purpose, a continuous educational program is being developed and implemented step by step. In addition to this general increase of demands in subjects of natural sciences and technical fields in high schools, special measures are being expanded for the advancement of creative students in study teams.

For rapid qualification in the field of computer technology, the advantages of socialism are fully utilized by creating central regional computer committees. They are used as training and continued education centers by the enterprises of various combines and thus are fully utilized in this important training. Even now it is important in vocational training to teach future skilled workers how to handle computers. At the same time, the number of special cadres in electric and electronic technology is being increased for the development and production of computers and their production-specific utilization.

Hummel then dealt with experiences of extended training for workers in preparation for the new technology, in particular with work at computer-based work places. He stressed also the demands placed on managers who must lead in this important field. He treated in detail the socio-economic aspects of the qualification measures. It concerns timely attention to the specific conditions arising for individual workers' groups because of qualification or in its train. And of course, already during qualification it becomes necessary to gain understanding and acceptance for full capacity use of the new machines and equipment through multiple shift work. A proven rule is to carry out qualification as efficiently and job-related as possible.

Schneider/Muth's discussion topic was socialist competition and mass initiative for acceleration of scientific-technical progress and further linkage of science and production. They started from the premise that wider application and higher quality of socialist competition are of fundamental significance for implementing economic strategy and comprehensive intensification. An important role is played by the expansion of socialist competition in accelerating scientific-technical progress and for closer linkage between science and production. Schneider/Muth concentrated particularly on three sets of problems:

1. There exists an inseparable connection between carrying out competitions for the implementation of comprehensive intensification, sometimes coupled with new forms of organization. Published obligations of competitions aim ever more strongly at opening up new reserves of effectiveness. In the production preparation areas, competition covers especially the materialization of new products and procedures. In production proper it concerns primarily maximum availability of existing installations. Innovations tend strongly toward modernization of existing assets. New questions concerning carrying out competitions must be studied from the aspect of increasing automation of

production. New conditions are created which must be taken into account when holding competitions. This concerns not only evaluation of the individual's performance, which must always remain visible, but also the competition of individuals within the framework of the entire collective.

2. The unity of plan and competition is assuming a new quality. Competition becomes increasingly more concrete, project-specific and process-specific. In many enterprises, the collectives themselves are developing new forms of competitions. For one, it involves carrying out competitions from research and development to marketing from the aspect of manufacturing and implementing new products. But beyond that, there are also a number of new forms of the competitive movement which transcend individual enterprises of a combine and even the combine itself. For instance, this refers to competition obligations in which scientific institutes and combine enterprises participate.

3. Qualitatively new questions arise regarding the connection between the management of enterprises and combines and workers' initiatives. In the past, the rights of trade unions have been expanded more and more. The goal--on the basis of democratic centralism--was to create more possibilities for strengthening, through socialist competition, the collaboration of workers in planning and management of the reproduction process. This, however, also places new demands on the work of trade unions. The process is two-pronged: on the one hand, the effect of competition must be strengthened in order to implement scientific-technical progress, in particular for the realization of economic results of scientific-technical work; on the other hand, future work of the trade unions above all concerns also improving working and living conditions.

At the 11th SED Party Congress it was again noted that introduction of new technologies must always lead to improvement in working and living conditions. In any case, the unity of economic and social policy must also be safeguarded in every individual technological measure. It is an important task of trade union work to prepare workers for ever greater participation in the management and planning of production. Through trade union work, a high level of workers' participation in planning and management must be secured.

The participants of the session were also presented with three written contributions by Milner, Shirayev and Vlaskin. Milner dealt with the management of programs of technological innovations and treated in detail the complex transfer of new technology. On the premise that coordinated and effective cooperation of everyone involved in the process is necessary, he noted that the traditional linear functional structures no longer satisfy the increased demands for rapid transfer of new technology. For this reason he submitted detailed proposals for the program management of innovative processes.

Shirayev presented methodological aspects of introducing scientific-technical results into production in the process of deepening cooperation of CEMA countries. His premise was that the prospects of deepening international socialist division of labor, and the strengthening of its influence on intensification of production in CEMA countries, are closely tied to the tempo of scientific-technical progress. In its turn, this tempo depends greatly on the achieved degree of integration of cooperation in scientific-technical matters,

investments, production and foreign trade, that is, cooperation in the entire reproduction cycle.

He also emphasized that under present conditions, scientific-technical progress must no longer be understood in its limited sense (transfer and use of the results of research and development). Within the framework of international socialist division of labor, also, it is a coordinated, unified process of the creation, transfer and massive introduction of new techniques and technologies. In this context he treated in great detail proposals on deepening socialist economic integration in the area of scientific-technical cooperation.

Vlaskin dealt with problems and experiences of management, planning and economic stimulation of scientific-technical progress of CEMA countries. At the present stage of leading the European CEMA countries on the road of intensification, it is important to also intensify scientific-technical cooperation within the framework of socialist economic integration. He submitted proposals based on the resolution of the fraternal parties of CEMA countries to transform the two coming 5-year plans into a period of intensive scientific-technical and production cooperation. He mentioned a number of progressive examples of scientific-technical cooperation and, on this basis, developed conclusions for its continued strengthening.

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CSO: 2300/52

ECONOMY

BULGARIA

ECONOMIC, SCIENTIFIC COOPERATION WITH USSR REVIEWED

Prospects, Benefits of USSR-Bulgarian Trade

Sofia TEKHNIЧЕСКО ДЕЛО in Bulgarian 27 Sep 86 p 3

[Article by V.A. Dyakov, USSR trade representative to Bulgaria: "The Strengthening of Economic Ties"]

[Text] The aim of Soviet participation in this year's spring Plovdiv Affair was to assist in the further development of foreign trade economic ties as well as to strengthen the friendly contacts between the USSR and Bulgaria.

As was pointed out in the decisions of the 27th CPSU Congress, it is essential in every possible way to improve and enrich the economic cooperation with the fraternal socialist countries, in successively carrying out the decisions of the Economic Summit Conference of the CEMA member nations in order to more fully utilize the opportunities of socialist economic integration to resolve the most important national economic problems and to strengthen the unity and solidarity of the socialist commonwealth countries and their position in the world.

Soviet-Bulgarian economic relations in recent years have expanded significantly, they have grown deeper and assumed a qualitatively new content on the basis of international socialist integration and all-round cooperation. The interaction between the Soviet and Bulgarian economies is becoming ever closer, new forms of economic and scientific-technical cooperation are being introduced in the leading production sectors. At present, exceptionally important significance is being assumed by the accelerated introduction of scientific-technical achievements, the maximum utilization of both the production capabilities and internal resources of each country as well as the advantages of the international socialist division of labor. Over the 1981-1985 period, trade between the USSR and Bulgaria reached 51.8 billion rubles and exceeded the level of trade in 1976-1980 by 1.8-fold. Here the average annual growth rate of commodity turnover reached 11.2 percent, a figure rather higher than the development rate of the sectors of material production in the two countries.

Of great importance for the further successful development of the foreign economic ties of our two countries are the long-term trade agreement for the

1986-1990 period and the trade and payment protocol between the USSR and Bulgaria for 1986; these were signed in Moscow on 10 January 1986. In accord with the new long-term agreement, trade between our two countries will increase by more than 40 percent in comparison with the actually achieved volume in 1981-1985 and in 1986-1990, will reach over 40 billion rubles.

The Soviet Union has steadily held first place in Bulgarian foreign trade and it is responsible for more than one-half of Bulgaria's foreign trade turnover. In 1985, the relative share of Soviet trade in Bulgarian foreign trade was 56 percent. In turn, Bulgaria has been established as one of the main trade partners of the USSR and in 1985, held third place (around 9 percent) in the Soviet foreign trade turnover.

In terms of growth rate, volume and nature, the foreign trade between the USSR and Bulgaria has no analogy in the practices of international economic relations. It is carried out in full observance of the interests of both countries on the basis of equality and mutual benefit.

The main sectors which support the foreign trade exchange of Bulgaria with the USSR are structure-forming ones for the Bulgarian national economy. These are primarily machine building, electronics, electrical engineering, the chemical industry and so forth. Around 60 percent of the Bulgarian machine building capacity operates to satisfy the demand of the Soviet market and for individual subsectors this percentage approaches 100.

During the period from 1982 to 1985, Bulgarian exports to the USSR for machinery articles rose from 1.7 billion rubles to 3.2 billion rubles, and this was 60 percent of the total volume of Bulgarian exports to the USSR. In receiving machinery and equipment from Bulgaria, the USSR has an opportunity to utilize the achievements of Bulgarian machine building for resolving a number of national economic problems and for reducing the time required to develop new equipment and introduce progressive production methods.

By tradition, computer equipment and materials handling equipment hold a significant place in the exports of Bulgarian machinery and equipment. The delivery volumes of each of these groups at present is over 800 million rubles.

In 1986-1990, the share of reciprocal deliveries of machinery and equipment will surpass 41 percent of the trade and will reach almost 29 billion rubles. This is an enormous figure. In comparison it might be pointed out that the reciprocal trade just of machine building products in 1986-1990 will almost equal the total commodity exchange between our countries in 1976-1980. Reciprocal deliveries of materials handling and warehouse equipment will continue. Bulgaria will export to the USSR complete facilities for mechanizing and automating warehouses and so forth. Collaboration will be continued in producing equipment for the reconstruction and technical rebuilding of projects in ferrous metallurgy, mining and coal industries. A number of measures has been set to further improve the mutually delivered equipment and this will assist in accelerating scientific and technical progress in the two countries.



Foodstuffs and raw materials for their production hold second place in Bulgarian exports to the USSR. Their volume has increased from 665.8 million rubles in 1975 to 1,407,300,000 rubles in 1985, while their share has risen, respectively, from 34.5 percent to 23.6 percent [sic]. Of all the food products which Bulgaria exported in 1985, 58.7 percent was destined for the Soviet Union.

Industrial consumer goods hold third place in Bulgarian exports to the USSR. Their volume has risen in 1975-1985 from 241.8 million rubles to 696.1 million rubles, while their relative share is 12 percent. In the total Bulgarian exports of these types of commodities, the Soviet share in 1985 was 66.8 percent.

The opportunity for extensive sales of commodities in the USSR has helped Bulgaria to resolve such important socioeconomic problems as providing complete and rational employment of the able-bodied population and to increase the material prosperity of the people.

Soviet-Bulgarian cooperation has been characterized by growing interaction in shaping the industrial structure of the two countries and primarily Bulgaria. Of the 350 industrial and other projects outlined in the agreements and for which the USSR has provided aid in construction and designing, around 230 are already in operation. These enterprises produce around 65 percent of Bulgaria's industrial product, including 95 percent of the ferrous metallurgical products, 85 percent of the nonferrous metallurgy, 76 percent of the electric power production, 55 percent of the chemical products and 50 percent of the automotive industry products. These enterprises determine the present state of the Bulgarian national economy which not very long ago did not produce machine building products. In 1986-1990, the Soviet Union will provide technical assistance in the construction, modernization and reconstruction of 115 industrial facilities on Bulgarian territory. During the Ninth Five-Year Plan, Soviet specialists will provide aid in developing Bulgarian nuclear power, for reconstructing and modernizing ferrous metallurgy, the chemical industry and machine building, and for exploring for oil and gas on Bulgaria's continental shelf.

There are also plans to broaden Bulgarian participation in the construction of large industrial projects on Soviet territory in the aim of providing additional Soviet deliveries of raw materials and power sources essential for the development of the Bulgarian economy. Bulgaria will take an active part in developing the Yamburg Gas Deposit and in building the gas line between Yamburg and the western frontier of the USSR; due to this, Bulgaria will receive an additional amount of natural gas.

At present, 25,000 Bulgarian workers and specialists are employed in the USSR, working in forestry in the Komi ASSR and in building a number of projects on compensation [swap] principles in Tyumen Oblast and at the Kursk Magnetic Anomaly.

Bulgaria is the largest importer of Soviet machine building products. Its share in Soviet exports is 13.6 percent. In 1981-1985, Bulgaria imported from the USSR machinery and equipment with a total value of 5.8 billion rubles,

while in 1976-1980 this total was 4.4 billion rubles. In 1985, this commodity group was 21.1 percent of the Soviet exports to Bulgaria.

In 1981-1985, the Soviet Union delivered to Bulgaria 168,000 passenger cars and 28,000 trucks, 9,760 tractors, 4,179 grain combines, 2,340 metal cutting machines and other types of equipment. These deliveries covered over 58 percent of Bulgaria's import requirements for machinery and equipment and this was of important significance for the development of the Bulgarian economy. In addition, in order to satisfy the growing needs of the Bulgarian population, in 1981-1985, the USSR delivered to Bulgaria 211,000 television sets, 100,000 washing machines, a large number of timepieces, photographic equipment and other industrial consumer goods.

By Soviet deliveries Bulgaria almost completely meets its import needs for oil and oil products, mazut, natural gas, electric power, iron, lumber, pulp and other types of raw materials and this is of great national economic significance as Bulgaria has limited fuel and raw material resources. In 1981-1985, the USSR delivered to Bulgaria around 60 million tons of oil, around 22 billion kilowatt hours of electric power, 35 million tons of coal and so forth. The importing of these commodities from the Soviet nation greatly assists Bulgarian economic growth and is a dependable guarantee for its stable, economic development.

Scientific and technical cooperation is developing intensely between Bulgaria and the USSR. Presently, over 200 Soviet and 150 Bulgarian scientific research and design organizations are jointly working on over 400 problems and projects, of which around 300 are of an applied nature. More than 80 percent of the entire range of subjects is related to the solving of key problems in material production, such as: the development of new energy sources, studies in the area of laser equipment and technology, robot equipment, computers and microprocessors, the development of machinery with a high degree of automation and so forth.

A characteristic trait of the present-day trade and economic relations between the USSR and Bulgaria is the intensification of integration processes and which are based upon production specialization and cooperation [subcontracting]. In 1981-1985, the reciprocal product deliveries between the USSR and Bulgaria were carried out under 118 multilateral and 31 bilateral agreements for specialization and cooperation. The relative share of machinery and equipment delivered under these agreements presently represents over 47 percent of the Soviet exports and over 68 percent of the Soviet imports of machine building products from Bulgaria. We should note the fact that destined for the Soviet Union is 80 percent of the export products produced at Bulgarian enterprises under contracts for international specialization and cooperation. Direct ties are also developing and at present they have been established between 131 enterprises and organizations from the USSR and Bulgaria. Direct ties on the sectorial level are highly effective and in practice have proven their promise.

A new step toward the further deepening of cooperation between our two countries has been the signing in June of 1985 of a long-term program for the development of economic and scientific-technical cooperation between the USSR

of the total trade turnover. Bulgaria, in turn, holds third place among the foreign trade partners of the USSR.

Lasting and steady ties have been established between the USSR and Bulgaria in virtually all sectors of the national economy. The total trade turnover during the last five-year plan reached 51.7 billion rubles, almost doubling in comparison with the previous five-year plan. But the figure alone is not important, in spite of the fact that it makes a strong impression. The main thing is that economic cooperation has developed most actively in the sectors which presently determine success in mastering the achievements of scientific and technical progress, that is, in machine building, power, electronics, robot engineering and the chemical industry. And this contributes to making progress by joint efforts and at the same time opens up good prospects for even closer cooperation between our economies.

The Soviet Union plays a major role in creating and strengthening the material and technical base of socialism in Bulgaria and in determining its industrial profile. In this context we might merely point out that 65 percent of all Bulgarian industrial product is produced at facilities of Bulgarian-Soviet cooperation. With Soviet aid Bulgaria has created many modern enterprises in the chemical, petrochemical and oil refining industries, metallurgical plants, hydropower and nuclear power plants. The Soviet deliveries of fuel, raw products, machinery and equipment are of crucial significance for the normal functioning of the Bulgarian economy. In recent years, their share has surpassed 90 percent of the total volume of Bulgarian imports from the USSR. On the other hand, Bulgaria has taken an active part in resolving questions related to the development of the Soviet economy and in satisfying its needs for various types of products, for example, rolled metals, battery-operated truck plants, seeders, combines, electronics products, motor vehicles tires, agricultural products and numerous consumer goods; 60 percent of the Bulgarian exports to the USSR have been machinery, equipment and articles of electronic computer equipment.

Even broader prospects for economic cooperation are opening up in the coming period. In 1986-1990, in comparison with the previous five-year plan, commodity turnover will rise by 40 percent, and we will continue to implement the long-term program for the development of economic and scientific-technical collaboration between the USSR and Bulgaria up to the year 2000. In defining the strategy of bilateral collaboration up to the end of the century, this program which reflects the decisions of the Economic Summit Meeting of the CEMA member nations (1984), anticipates a transition from mutual collaboration to a new, higher level which will deepen scientific-production cooperation among our countries, including on the basis of participation in the Comprehensive Program up to the year 2000.

Bulgaria will take a wider part in building fuel and energy projects in the USSR. Due to this, Bulgaria has been able to obtain additional quantities of important types of raw materials and energy sources. In March 1986, an international agreement was signed on cooperation in developing the Yamburg Gas Deposit and for building the main gasline between Yamburg and the western frontier of the USSR, as well as other projects in the Soviet gas industry by delivering machinery and equipment, pipes and other commodities as well as

and Bulgaria for the period up to the year 2000. This program will introduce a number of new aspects in bilateral cooperation between the USSR and Bulgaria. Above all the main areas of economic and scientific-technical collaboration will be strengthened over an extended period.

In each area problems and types of activities have been designated which are to be given preferential joint development and elaboration. It is envisaged that the implementing of the areas set out in the program for Soviet-Bulgarian economic and scientific-technical collaboration will be carried out by coordinating the most important areas of economic and scientific-technical policy, strengthening direct interaction between the planning and economic bodies of the two countries in the sphere of science, technology and material production. An organization has been adopted for implementing the long-range program which will ensure an organic coordination of economic and scientific-technical collaboration.

An important step in the development of economic collaboration and the establishing of direct ties has been the signing of the international agreement during the visit of the Soviet party-governmental delegation to Bulgaria in October 1985. This agreement covers the establishing of Bulgarian-Soviet scientific-production trusts in the area of machine building. Up to now two such trusts have been organized:

1. The Sofia Combine for Metal Cutting Machines and the Ivanovo Machine Building Production Association.
2. The Beroe Combine in Stara Zagora and the Moscow Krasnyy Proletariy Machine Building Association.

The basic aim in establishing these trusts has been to accelerate scientific and technical progress, to deepen specialization and cooperation, in pooling the scientific-technical and production potential of the partners and in effectively utilizing direct ties for developing and producing competitive machinery and equipment meeting the best world standards.

In giving exceptionally important attention to this new and promising form of trade and economic ties, it is essential to take energetic measures to provide it with a proper organization and achieve optimum interaction between the partners who will be working under common leadership, according to a single production plan on the basis of an agreed-upon scientific-technical policy.

#### Benefits of Economic Integration

Sofia TEKHNIЧЕСКО ДЕЛО in Bulgarian 27 Sep 86 p 7

[Article by Candidates of Economic Sciences, F. Alev and B. Medvedev: "Bulgarian-Soviet Economic Collaboration"]

[Text] The mutually advantageous economic cooperation between the USSR and Bulgaria has been developing for more than four decades. The Soviet Union has become the largest trading partner of Bulgaria, responsible for 57.5 percent

carrying out construction and installation work. As a result, Bulgaria will obtain long-term natural gas from the USSR. This will begin to be delivered in 1989 and by 1992 will reach the designed level of 3.75 billion cubic meters annually.

Particular attention is to be paid to the intensive development of scientific and technical collaboration. At present, we are jointly resolving around 400 scientific-technical problems, including 300 of an applied nature. Over 80 percent of the joint program is directly linked to the needs of material production, including: the development of new energy sources, progressive production methods, the development of highly automated machines and so forth. Production specialization and cooperation are being constantly deepened in various areas, particularly in machine building and the electrical engineering industry. This is of exceptionally important significance for accelerating the process of economic intensification and for carrying out the overall strategic task of reorganizing production on a new, modern scientific and technical basis and switching to an intensive model of economic relationships in accord with modern trends in the development of the world economy and technical progress.

For the further development of Soviet-Bulgarian economic cooperation, of the greatest significance is the seeking out and introduction of new forms for its organization. In speaking in Moscow at the 27th CPSU Congress, the General Secretary of the BCP Central Committee, Todor Zhivkov, pointed out that "recently our party's policy of the ever-fuller integration of Bulgaria with the fraternal Soviet nation has entered a new stage of establishing joint scientific-production associations and ever-closer collaboration in the area of science, education and in other spheres."

The process of deepening our scientific-production cooperation is developing particularly actively in machine building. Involved in it are virtually all Bulgarian enterprises and scientific organizations participating in the production of metalworking equipment as well as 40 Soviet plants and 17 scientific-research and design organizations. In order to test out experimentally suitable forms for the organization of production on an international basis and to increase the effectiveness of cooperation, two associations have been set up in the machine building area. By joint efforts we will develop and product modern manufacturing centers, numerically-controlled lathes, robots and manipulators, flexible production modules and on this basis, flexible production systems. The contribution of these associations to ensuring the production of "tomorrow's" equipment can be described by the following data: in 1986-1990, joint production of manufacturing centers in comparison with the previous five-year plan will increase by 2.7-fold, while the products of the Krasnyy Proletariy Association (USSR) and Beroe (Bulgaria) over the 5 years will grow by 2.2-fold. Here the set plans will be overfulfilled in the aim of carrying out the Comprehensive Program for Scientific-Technical Progress in the CEMA Member Nations. The Soviet-Bulgarian machine building associations, for example, which have large plants for series production, will produce the industrial robots developed within the framework of the multilateral Interrobot Association.

Two years ago the Electrical Equipment Plant Under the Bulgarian Elprom [Electrical Industry] Association and the Institute for Microelectronics, together with the Moscow Scientific Research Institute for Automotive Equipment, began developing electronic systems for motor vehicles employing microprocessor equipment. For realizing the results of the joint developments, Bulgaria has organized joint production. For this purpose the Electrical Equipment Plant in Plovdiv has been significantly enlarged and equipped with highly productive facilities for small-scale experimental production. In establishing the joint enterprise and supporting its operations, the two countries are taking an equal part in the joint capital investments. Also to be split will be the raw products and materials, the produced product and the profit. The enterprise will have in operation design and engineering bureaus. The approved production program includes first of all the production of 13 types of assemblies for the VAZ and ZIL motor vehicles. Subsequently, this will be widened and filled out with new products, for example, electronics for diesel vehicles. Even this year, in parallel with the setting up of production capacity and the expansion of the production area, production will be commenced on experimental industrial batches of products.

Progressive forms of integration in the area of science, the economy and education have a great future. During the visit of Todor Zhivkov to the Bioorganic Chemistry Institute Under the USSR Academy of Sciences, proposals were discussed for the establishing of a joint Bulgarian-Soviet center for biotechnology, for developing direct ties between Bulgarian and Soviet scientific institutes and a proposal for more effective forms of the training and retraining of personnel.

Some 9 years ago the Bulgarian-Soviet scientific research and design institute Interprograma [Interprogram] was established with the task of creating, developing and introducing software for the national economy of the USSR and Bulgaria. Its small collective has already developed over 100 program systems and the effect of their employment alone for the USSR has been over 50 million rubles. Modern scientific and technical progress is posing new tasks for the institute's collective. On the agenda is the elaboration of computerized integrated production systems which include complete comprehensive automation of the production process, its planning and management.

Progress in Bulgarian-Soviet economic collaboration has been rapid and all-round and its prospects in the coming period are excellent.

#### Soviet Exhibit at Plovdiv Fair

Sofia TEKHNICHESKO DELO in Bulgarian 27 Sep 86 pp 8-9

[Article by Aleksandr Zadorin, director of the USSR Exhibit at the 1986 Plovdiv International Technical Fair: "With the Idea of Integration"]

[Text] Socialist economic integration (SEI) is the main theme which has determined the sense and content of all sections in the Soviet exhibit at the 1986 International Technical Fair in Plovdiv. This certainly is no accident. And not only because today we are celebrating the 15th anniversary of the

ratification of the Comprehensive SEI Program. The questions of strengthening SEI are becoming particularly pertinent at present in line with the need to accelerate scientific and technical progress and thereby increase the intensification of social production and its efficiency. Precisely such a task was posed in the Comprehensive Program for Scientific-Technical Progress in the CEMA Member Nations Up to the Year 2000. The necessity of rapidly resolving the integration problems was also pointed out at the 27th CPSU Congress and the 8th BCP Congress. In preparing our exhibit for the autumn fair in Plovdiv, we have not forgotten this. Its introductory part shows this theme in focusing on specific achievements in the development of integration ties between our countries. At present, direct ties are maintained by over 4,000 enterprises of the CEMA member nations, including over 130 enterprises and organizations in the USSR and Bulgaria. As an example one might mention Uralmash [Urals Machinery Plant] and the Heavy Machine Building Plant in Radomir, the Moscow Production Association Soyuzparfumerprom [All-Union Perfume Industry] and the Farmakhim SO [Pharmaceutical and Chemical Economic Association]. Such ties are to become ever-closer in carrying out the long-term program for the development of economic and scientific-technical collaboration between the USSR and Bulgaria over the period up to the year 2000.

In the industrial part of the exhibit, this year 10 associations are represented of the State Committee for Economic Ties. Its overall theme is "Integrated Enterprises of the USSR." Among the associations are Atomenergoeksport [Nuclear Power Export], Prommasheksport [Industrial Machinery Export], Tekhnoeksport [Technology Export], Tyazhpromeksport [Heavy Industry Export] and others.

With the assistance of the associations participating in the fair, a total of 1,825 technical installations have been built in the CEMA member nations, including 230 in Bulgaria. As is known, they presently produce 65 percent of Bulgaria's total industrial product with virtually all steel and rolled products, 80 percent of the products of the oil refining and petrochemical industry and so forth.

This year, at the request of the Bulgarian side, participating in the exhibit is the Minmedbioprom [Ministry of Medical and Microbiological Industry] with the theme "Bioequipment and Biotechnology." The section showed the following development areas: genetic engineering, biotechnological processes, biotechnology in medicine, instruments and equipment.

Diagrams and models show the method of designing the gene of interferon Alpha-2, the microbiological method of obtaining riboflovin on the basis of a bacillus, the methods of producing feed yeasts from petroleum paraffins, a dry viral preparation, the technology of industrial photosynthesis and many others.

During the 12th Five-Year Plan in the USSR, by biotechnologies they plan to create and develop around 250 types of fundamentally new products. Over the last five-year plan, Soviet and Bulgarian microbiologists carried out scientific and technical collaboration on nine subjects. During this five-year plan, this collaboration will be further extended.

A portion of the exhibit of the Minmedbioprom was devoted to the science, equipment and medicine of Latvia. Here the attention of specialists will be attracted to the 2105 thermal activity meter, the VIMP-51 high-frequency metal plating meter and a high-frequency device for inspecting semiconductor structures. Here also are represented medical equipment such as the Pulsar device for electromagnetic therapy, the Prygun physical culture trainer, cardiological diagnostic equipment and so forth. Photographs and textual material show the cultural and sports life of Latvia, ties with Bulgaria, including between the twin cities, the capital of the republic Riga and the town of Ruse.

Participating in the Soviet exhibit are 18 foreign trade associations. It would be difficult to make a description of everything shown there: the Mashinpriborintorg [Machinery, Instrument and Tool] V/O [Foreign Trade Association] shows a large number of metering devices, laboratory equipment including oscillographs, spectrophotometers, refractometers and so forth. The Stankoimport [Machine Tool Import] V/O demonstrates 14 types of manufacturing machines. Among them of particular interest is the 4R222F2 program-controlled laser machine, the Saturn-2.5 industrial robot, the very high precision screw-cutting lathe and so forth. The machinery developed by cooperation has been marked with the SEI emblem.

Under the title "Direct Ties -- An Effective Form of Collaboration" photographs are shown of collaboration between specialists from the Ivanovo Machine Building Plant and the Metal Cutting Machine Plant in Sofia. Visitors will learn that during the 12th Five-Year Plan the USSR will produce over 110,000 industrial robots, over 4,000 automatic and semiautomatic lines, and over 110,000 machines with digital programmed control.

The Electronorgtekhnik [Electronic Office Equipment] V/O is showing the Iskra-226 computer, the Granit-02-03 control system with two manipulators and computer equipment. All the exhibits on the stand are marked with the SEI emblem and this is no accident as the cooperation between the CEMA member nations in developing the newest computer equipment has been constantly broadening. As an example one might mention the permanent professional contacts of the Electronorgtekhnik V/O with the Bulgarian foreign trade organizations Iztoimpeks [Computer Import-Export], Elektroimpeks [Electronic Import-Export], Koraboimpeks [Ship Import-Export]. These ties have good prospects, as the volume of computer equipment employed in the USSR must increase by 2-2.3-fold by 1990, as was pointed out in the Basic Directions for the Development of the Soviet National Economy During the 12th Five-Year Plan and Over the Period Up to the Year 2000.

The Antim Scientific-Production Association is showing unique production methods for soldering and applying strengthening coverings on cutting tools.

Very interesting exhibits are being shown by the Medeksport [Medical Export] V/O including: a portable echoencephalograph, an echoophthalmoscope, therapeutic ultrasound devices, devices for ultrasound surgery, the Delta-101 portable device for eliminating felt pain, the Mioritum-21 electrostimulator, a device for correcting the speech of stutterers and so forth.



I would also like to mention the stand of the Aviaeksport [Aviation Export] V/O which is showing materials devoted to the 25th anniversary of the flight of Yuriy Gagarin in space. Here the visitors will see models of Soviet airplanes and helicopters such as the IL-62, YaK-42 and KA-126. Also among them is the model of the AN-28, a light multipurpose aircraft for domestic airlines developed in the USSR and presently produced in Poland.

Of undoubted interest both to specialists as well as to ordinary visitors will be one other stand included in the exhibit also at the request of the Bulgarian side. Its exhibits are original attachments and tools used in finishing work in construction and designed to ease and mechanize manual labor.

Among them is a mobile plastering mechanism, a plaster smoothing machine, a floor polishing machine, painting units, a device for driving nails, electric hammers, electric planers, electric drilling machines and so forth.

A few words about the open air area. Here they are showing exhibits of Avtoeksport [Automotive Export], Mashinoeksport [Machinery Export], Traktoroeksport [Tractor Export] and Zapchasteksport [Spare Parts Export]. Here are shown excavators, trucks, cement mixers, drilling rigs and other units.

Passenger vehicles are being shown this year only in the pavilion. Among them impressive are several models of the VAZ motor vehicle as well as the cars of the GAZ Gorkiy Production Association. The visitors will see the Volga passenger cars of the GAZ-24-10 and GAZ-31-02 models as well as the GAZ-14 Chayka motor vehicle which is being shown for the first time at the fair.

In concluding the cursory and naturally incomplete review of the Soviet exhibit, I would like to point out that in organizing it we have been guided by the principle of a "complete thematic arrangement" wherever possible. For example, in showing motor vehicles we are also exhibiting their "footwear," that is, tires, as well as the materials for their production including rubbers, resins and so forth. Here also we are showing the means for protecting motor vehicles including paints and anticorrosion surfaces.

Lastly I would like to again emphasize that we have created our exhibit for Plovdiv 86 with socialist economic integration in mind and the urgent necessity of rapidly resolving the tasks related to it.

We feel that our involvement in the fair will help do our share to achieving the integration goals.

#### Cooperation in Machine Building

Sofia TEKHNIЧЕСКО ДЕЛО in Bulgarian 27 Sep 86 pp 10-11

[Article by V.I. Babkin: "Stages of Collaboration"]

[Text] In accord with the Basic Directions for the Economic and Social Development of the USSR in 1986-1990 and Up to the Year 2000" approved by the

27th CPSU Congress, there are plans to broaden cooperation between the CEMA member nations and improve its forms. They plan to involve the associations and enterprises more actively in this work both by developing direct production ties with those of the fraternal countries as well as by setting up joint enterprises.

It is no accident that the Bulgarian machine builders have become the first partners of their Soviet colleagues in the new form of cooperation. They are linked by almost 30 years of mutually advantageous cooperation and comradely mutual aid and friendship.

At one time, Bulgaria was only the importer of metalworking equipment. Today, at certain of its enterprises, up to 80 percent of the machinery fleet consists of Soviet lathes and presses. Bulgaria has imported from the USSR a total of over 20,000 metalworking machines, a large quantity of cutting and measuring tools and bearings. With the aid of Soviet specialists, in a short period of time Bulgaria has developed highly advanced machine building. With Soviet assistance Bulgaria has built over 200 large industrial enterprises while many others continue to be built and reconstructed. The production of various lathes has been developed following Soviet specifications.

Industrial equipment which is presently produced in Bulgaria is exported abroad, including to the Soviet Union. Here the exported quantity is constantly growing, with a rise in the relative share of metal cutting machines which provide the most modern production methods as well as industrial robots.

Along with the improvement and greater complexity in the equipment produced by the fraternal countries, cooperation is moving more and more deeply from the circulation sphere into the production sphere. Many Bulgarian metal cutting machines are assembled with units and parts produced in the Soviet Union. In turn, the Bulgarian machine builders supply the USSR with electric drives, hydraulic elements, and materials handling equipment.

The reciprocal deliveries of preassembled parts would not have a major impact if this was not preceded by joint scientific research and design development. From 1981 until 1985, Soviet and Bulgarian specialists carried out their activities according to the "Comprehensive Agreement for Collaboration in the Area of Specialization, Cooperation and Reciprocal Deliveries." This envisaged the modernizing of program controlled machines, modern electric drives, systems for the automatic changing of tools and other preassembled articles. Industrial robots and manipulators have been developed jointly. The most vivid example of collaboration in developing automated production has been the delivery of materials handling systems for the automatic lines at the Kama Motor Vehicle Plant (KamAZ).

Soviet and Bulgarian machine builders have jointly developed universal and turret lathes, multispindle automatic equipment, circular grinders with program control, multihead horizontal milling machines and manufacturing centers....

The attention of many specialists who visited the Metalworking Exhibit in Moscow was attracted to the multiposition adjustable automatic machine for precision machining of openings. In aiding Bulgarian machine builders to develop these, Soviet specialists were also working "for themselves." This has been designed to turn out the hydraulic elements which Bulgaria delivers in large numbers for Soviet metal cutting machines.

The further rise in the technical level of the jointly developed and produced machinery and equipment requires a shift from traditional forms of cooperation based upon the exchange of technical specifications and preassembled articles to direct economic ties. These are most fully manifested in international associations the first of which are the Krasnyy Proletariy--Beroe and Ivanovo--Sofia. Let me describe these.

The Moscow Krasnyy Proletariy Production Association for Metal Cutting Machines until recently was the world's largest producer of manually controlled universal lathes. What lathe operator in the USSR or abroad did not know the 16K20 screw-cutting machine or its modifications? From the beginning of the 1980's, the enterprise converted to producing program controlled lathes and robotized turning facilities. These are manufactured on the basis of the 16K20 lathe as well as new designs such as the 1720PF30. These are served by robots which are floor-mounted or fastened to the body of the lathe.

The Stara Zagora Beroe Scientific-Production Combine for Robot Building has become the partner of Krasnyy Proletariy. This is a young enterprise which demonstrated its products for the first time in 1974 at a national exhibit in Moscow; in 1981 it was already producing around 350 robots. Over the last 5 years, its production has doubled annually.

It can be expected that the enormous experience of Krasnyy Proletariy in producing lathes combined with the rapid rate of Bulgarian robot building will produce good results.

The Ivanovo Machine Building Production Association is known in the USSR and abroad as a leading developer and producer of manufacturing centers based on heavy horizontal milling machines. At present, here they produce chiefly elements for flexible production systems or manufacturing modules. The range of production has recently been significantly broadened. Along with the large manufacturing centers which are traditional for the association here they also manufacture precision minicenters and manufacturing centers which in addition to turning make it possible to machine with a turning tool.

The State Economic Association Metal Cutting Machines Plant (ZMM) is a wide-range enterprise with a major production facility in Sofia and other towns of Bulgaria. Just under Soviet orders the ZMM manufactures semiautomatic chucking-center lathes with programmed control, semiautomatic circular grinders, special and transfer machines, industrial robots and transport devices.

The pooling of the advanced creative thought of the Ivanovo specialists with the great production capabilities of their Bulgarian colleagues will make it

possible in the near future to significantly increase the production of elements for flexible automated production and to broaden their product range.

In spite of the fact that the international associations began operating recently, this year they have much to do. For example, the production program for joint operations of the Krasnyy Proletariy--Beroe Association states that they will sell outside the association some 2,060 industrial robots with a load capacity of 10 and 20 kg. This includes 250 in Bulgaria. The number of flexible production modules is 700, including 100 in Bulgaria.

The ZMM has begun developing one of the last products of the Ivanovo Association, a minicenter. The IS500 manufacturing center has been developed jointly and this will begin production in 1986.

In spite of the fact that it is still early to speak in detail of what are the mutual benefits promised by the setting up of international associations, it is perfectly obvious that cooperation in its advanced form is undoubtedly a major step ahead in the common cause of creating the most modern machinery and equipment.

### Soviet-Bulgarian Cooperation in Construction

Sofia TEKHNIЧЕСКО ДЕЛО in Bulgarian 27 Sep 86 pp 12-13

[Article by A. Podsipanin, chief of the Section for Collaboration With Bulgaria Under the USSR State Committee for Economic Ties: "In the Interest of Collaboration and Progress"]

[Text] Soviet-Bulgarian cooperation in the construction of industrial enterprises has been characterized by diversity and great scope. This has encompassed all sectors of the Bulgarian economy.

It is essential to point out primarily that cooperation in the construction of national economic projects in Bulgaria has been one of the forms for the rational use of the capabilities of our two countries in resolving major problems in capital construction.

By pooling labor and material resources, our countries are putting up or reconstructing large industrial enterprises, energy and other projects and their creation will strengthen the economic potential of not only one of the partners but the entire socialist commonwealth.

Over the 39 years, cooperation (the first agreement for providing technical assistance to Bulgaria was signed on 23 August 1947), Bulgaria has built or reconstructed over 240 different national economic projects, individual shops and installations with the aid of Soviet organizations.

In Bulgaria widely known are such flagships of industry built with Soviet technical assistance as the Kremikovtsi L.I. Brezhnev Metallurgical Combine, the first nuclear power plant Kozloduy in the Balkans, the Burgas and Pleven Petrochemical Combines, the Devnya Chemical Combine which is the largest in

Europe, the USSR--Bulgaria Gasline, the Varna--Ilichevsk ferry boat facility and many others.

The enterprises built with technical assistance from Soviet organizations represent over one-half of the fixed productive capital in all Bulgarian industry. The cooperation projects in power, metallurgy, machine building, the chemical and oil refining industries, as well as in other sectors to a large degree determine the present industrial appearance of the nation.

The Soviet Union has played an important role in the training of Bulgarian personnel. Around 20,000 Bulgarian specialists have been trained in the industrial enterprises of our nation. Almost an equal number of Soviet specialists has been in Bulgaria in order to assist in the construction of various projects and install Soviet equipment. Simultaneously with the carrying out of this work, Soviet specialists have passed on and are passing on their experience and knowledge to their Bulgarian colleagues. With their help over 70,000 Bulgarian workers and specialists have improved their skills. This personnel provides dependable operation of the industrial enterprises built with Soviet technical assistance and which have high technical and economic indicators.

The products manufactured by the enterprises which have been the fruit of collaboration between the USSR and Bulgaria meet the domestic needs of the nation and a significant portion is exported. The USSR receives battery-operated plant trucks, electric hoists, vineyard tractors, motor vehicle tires, soda ash, polyamide fiber, conveyor belts and other products which are important to the Soviet economy.

Further development of Soviet-Bulgarian economic and technical collaboration will continue during the current five-year plan. This will be focused more and more in the sphere of material production which assists in the effective comprehensive resolution of important national economic problems as well as a high-quality reorganization on the basis of new equipment and leading production methods in all the economic sectors of our countries. This also to a significant degree has been aided by the decisions adopted at the Economics Summit Conference of the CEMA Member Nations in July 1984.

Of important significance for the further development of Soviet-Bulgarian economic and technical collaboration is the Long-Range Program for the Development of Economic and Scientific-Technical Collaboration Between the USSR and Bulgaria Up to the Year 2000. This was signed on 7 June 1985 in Moscow by the General Secretary of the CPSU Central Committee M.S. Gorbachev and the General Secretary of the BCP Central Committee T. Zhivkov. This document sets out the main aims of further development and deepening of Soviet-Bulgarian economic ties as well as the main tasks of long-term collaboration in the main economic sectors.

The long-term program is an important stage in further implementing the course of our countries toward all-round collaboration and integration between the USSR and Bulgaria, between the Soviet and Bulgarian peoples. This document sets out new, major tasks for our two countries to increase the effectiveness

of their economic ties and for strengthening their influence on the accelerated development of the Soviet and Bulgarian economies.

The Soviet-Bulgarian agreement signed in January 1986 concerning cooperation in the construction of industrial enterprises and other projects in Bulgaria during the 1986-1990 period should help in specifically carrying out these tasks. During this five-year plan, Soviet organizations will provide technical assistance to Bulgaria in the construction, reconstruction and modernization of over 100 industrial and other projects.

Collaboration encompasses virtually all sectors of the Bulgarian economy, with the main portion of this applying to the leading, base sectors of the Bulgarian economy.

The determining directions in economic and technical collaboration between the USSR and Bulgaria in 1986-1990 will remain, as in the previous five-year plan, the following sectors of heavy industry: electric power (primarily nuclear), the coal mining industry, ferrous and nonferrous metallurgy, chemistry and petrochemistry and machine building. These will be responsible for around 90 percent of all deliveries of Soviet equipment to Bulgaria

A main area of collaboration is the providing of technical assistance for the development of Bulgaria's fuel and power facilities. This will be responsible for more than 60 percent of all the equipment delivered from the USSR. Cooperation involves the wider use of local fuel resources as well as the construction of nuclear power plants. We will continue to import equipment for the third stage in the expansion of the Kozloduy nuclear power plant and its capacity should reach 3,760 megawatts. We will also begin deliveries for the new Belene nuclear plant. The manufacturing of the mentioned nuclear power units with a capacity of 1 million kilowatts will significantly increase the economic efficiency of Bulgaria's entire power system. On the basis of the extension of the efficient method of direct combustion of low-calorie lignite coals developed and introduced by Soviet and Bulgarian specialists, cooperation will be continued in the further expansion of the Maritsa-Iztok II TETs, with the additional installation of two power units each of 210 megawatts, with deliveries commencing for the Maritsa-iztok IV TETs with a capacity of 1,500 megawatts.

In order to ensure the operation of the constructed TETs, there are plans to further develop collaboration in the coal mining industry. With Soviet technical assistance we will continue to reconstruct the Troyanovo-yug and Troyanovo-sever open pit mines in the aim of bringing capacity up to 45 million tons a year, in addition to the construction of a number of new mines (Chukurovo, Chernomore-2, Kanina, Zdravets) as well as exploratory drilling in the Dobrudzha Mine.

A promising area is collaboration on a long-term, mutually advantageous basis in the area of mechanizing agricultural production and the creation and outfitting of repair and operating facilities for the agriculture of the two countries.

Bulgaria is taking an evermore active part in integration processes with the other CEMA member nations, including with the USSR. During this five-year plan, in accord with the multilateral agreements of 28 June 1979, Bulgaria will produce equipment for biological protection, transport and production equipment, individual types of pumps and special equipment for nuclear power plants for export to the USSR and to the other CEMA member nations.

The Soviet Union and Bulgaria are collaborating successfully in providing aid to the developing countries in the construction of industrial enterprises and other national economic facilities which contribute to their economic development.

The all-round development of foreign economic ties between the USSR and Bulgaria is a vivid example of fruitful collaboration between the socialist countries, and this is socialist internationalism in action.

The 27th CPSU Congress and the 13th BCP Congress which were held in 1986 set new tasks for the further development of economic integration between the socialist commonwealth countries. The implementation of the set tasks will help to further raise the effectiveness of economic and scientific-technical collaboration in accelerating the socioeconomic development of our two countries.

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#### FUTURE TASKS, DEVELOPMENT OF CHEMICAL INDUSTRY OUTLINED

Sofia TEKHNICHESKO DELO in Bulgarian 4 Oct 86 p 6

[Unattributed article: "The Bulgarian Chemical Industry -- Rise and Prospects"]

[Text] The Bulgarian chemical industry has become established as one of the structure-forming sectors of the national economy. It plays an evermore revolutionary role in creating the material and technical base of mature socialism and improving the national economic structure. At present, the nation possesses chemical capacity which permits us to carry out one of the main directions of the present-day scientific and technical revolution, that is, the wide use of chemistry in the national economy. In many regards, the production level in such sectors as agriculture, construction, machine building, electronics, transport and light industry is directly dependent upon the degree to which chemistry has been introduced there. For precisely this reason what has been achieved by Bulgarian chemistry is exceptionally important for a steady pace in our socioeconomic development.

At present, the chemical industry holds 11.5 percent of the nation's fixed capital and 2.3 percent of the number of employees and this potential provides 11.3 percent of our industrial production, 9 percent of the product for the commodity fund and 37.7 percent of the national income generated in the sphere of material production. Social labor productivity is 4.7-fold above the national average while productivity figured on the basis of commodity product is, respectively, 3-fold higher.

In accord with the decisions of the 13th BCP Congress for improving the development structure of the national economy and for creating socialist self-managing organizations as the actual commodity producers, at present the chemical industry as a sector is directed by the Chemical Industry Economic Association. The association has been entrusted with organizing the scientific research, introductory and design activities, the production of petroleum, petrochemical and chemical products, the processing of rubber, plastics and certain other types of production, engineering, construction-installation and trade activities in the nation and abroad in the area of the technical industry. The association includes 25 combines.



The decisions of the 13th BCP Congress anticipate that "the chemical industry will provide a further widening and enrichment of the raw material base and the development of new chemical raw materials and products." In light of this, the main aim in the development of the chemical industry during the period of the Ninth Five-Year Plan and up to the year 2000 will be the technical reequipping of the sector and the technological restructuring of production.

By the accelerated development of modular technologies there are plans to create conditions for establishing a new raw material base and for resolving the energy problems. For creating the new energy base, there are plans to work out and introduce a range of technical decisions by which the technological capabilities will be created for the following:

- Putting into effective economic circulation the hitherto unused natural raw materials in the nation;
- Integrated use of waste products from industry and agriculture;
- Modification of the existing raw products and materials by fundamentally new methods and technologies and on this basis the development of qualitatively new product;
- Improving the quality and obtaining fundamentally new raw materials.

For carrying out these priority tasks, an important role will be played by the chemical processes and production methods and by the employment of chemical products and articles. With the improvement of the existing production methods and the introduction of new ones, with the shortening of the production cycles and with changes in the methods of processing the raw materials, products and articles will be obtained with a reduced consumption of energy.

The technological reequipping in the chemical industry will be carried out by the organizing of waste-free production, in giving priority to catalytic, progressive and standardized production methods which employ highly active and highly selective catalysts and which provide yields close to the theoretical. These will be introduced in highly productive lines and modules such as laser and plasma chemical technologies for obtaining expensive chemical substances and giving new properties to the products.

For carrying out the tasks which confront the chemical industry as well as considering the factors which will influence its development and the main areas of technical progress, according to the guidelines for the Ninth Five-Year Plan, the product of the chemical industry should increase by at least 40 percent. Preferential development will be given to light chemical products with special attention being paid to the production of chemical agents, chemically pure and particularly poor substances as well as products with special purposes.

One of the main factors for the dynamic development of the chemical industry, under the conditions of the scientific and technical revolution, will be

international economic and scientific-technical collaboration. This will be carried out to achieve higher and steadier growth rates of the material and technical base as well as for resolving socioeconomic problems in creating a developed socialist society.

International cooperation and particularly collaboration with the USSR are of exceptionally important significance for the accelerated, effective development of our chemical industry. This will help to provide the necessary raw materials for its development. By coordinating capital investments, conditions will be created for building large capacity assembled in highly productive units and production lines. The difficulties will be overcome stemming from the limited capability of the small countries such as ours in quickly providing the large material and financial resources for building large capacity.

Foreign economic ties in subsequent years will play an important role in the development of the chemical industry. These will be aimed at the further development of specialization and cooperation and reciprocal deliveries of chemical products and articles to satisfy the needs of the country and exports, as well as for our active participation in carrying out the Comprehensive Program for scientific-technical progress in the CEMA countries up to the year 2000, in the area of new materials and products for electronics. The tasks will be carried out stemming from the long-term comprehensive measures related to capital investment coordination to create by joint efforts new production capacity for phosphorous-containing raw materials, structural plastics, industrial catalysts and the development of direct ties with the economic organizations of the two countries. Effective forms of collaboration will be more widely employed by establishing joint enterprises, institutes, laboratories, scientific-research and introductory collectives, participatory scientific-technical collaboration and so forth.

In subsequent years, the production structure will be improved and production efficiency increased. This will have a strong multiplier effect in the sectors which consume chemical products and articles. In this manner the chemical industry and the introduction of chemistry into the national economy will be in the vanguard of the scientific and technical revolution occurring in our country.

The Bulgarian chemical industry is evermore clearly establishing its presence on the world market and is becoming a desired trade partner. Figuring on its export list are over 180 basic chemical products and articles purchased by firms and organizations from more than 30 countries.

The successes of chemistry will be demonstrated at the 42d International Technical Fair at Plovdiv (from 29 September to 6 October 1986). This has become established as a forum which widely reflects the leading trends in the development of the scientific and technical revolution throughout the world and as an important meeting grounds for the extensive exchange of advanced world experience.

In the exhibit the Chemical Industry SO [Economic Association] will demonstrate its achievements at its combines and scientific organizations

related to the accelerated introduction of automated and microprocessor systems in production and management, the new developed chemical products, new technologies with modern technical and economic indicators, technologies which are the exporting of know-how, licenses, as well as new systems of equipment, machinery and so forth. All the chemical combines of the association will participate. Over 1,000 exhibits will be shown of which 230 new articles were produced last year.

In line with the role assigned to the Plovdiv Fair (it will be a center for the transfer of the most modern technologies), the chemical combines and scientific organizations have worked out their programs in this area, including the adjustment of the import requirements and the possibility for exporting equipment, automated and microprocessor systems, laboratory equipment and instruments, while the trade organizations are preparing to sign contracts for industrial cooperation with the leading firms and organizations as well as for establishing companies.

The exhibit has been organized in the following main areas: science and technical progress, automation and mechanization, engineering activities, heavy chemistry, chemically pure substances and light chemical articles, the petrochemical and oil refining industry, rubber products, plastic articles, paints and varnishes, chemical fibers and filaments.

Of special interest will be the section "Science and Technical Progress" which will show the developments related to the complete processing of raw products and materials.

Widely shown will be the introduction of chemistry into the national economy, the improved structure of the sector and the deepening of integration processes with the socialist countries as well as with the leading Western firms.

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ECONOMY

BULGARIA

ROLE OF TECHNICAL PROGRESS FOR MORE CONSUMER GOODS, SERVICES

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[Article by Doctor of Economic Sciences, Senior Science Associate 1st Degree Boris Atanasov: "Scientific-Technical Progress and Consumer Consumption"]

[Text] The 13th BCP Congress established and confirmed the strategy of bringing about profound qualitative changes in the national economy, in the social area and in the spiritual life of society up to the end of the century, with a scientific and technical revolution being carried out steadfastly and decisively for this purpose. Linked most closely to this and its realization is the further fulfillment of the party's program task of evermore completely satisfying the increasing material, spiritual and social needs of the people as well as improving the prosperity of the people. The Congress outlined the most important areas for the scientific and technical reequipping of all the national economic sectors, including the sectors which produce and offer material goods and services for consumer consumption.(1) At a conference convened by the Secretariat of the BCP Central Committee and the Bureau of the Bulgarian Council of Ministers in July 1986, Comrade Todor Zhivkov established a number of exceptionally important theoretical concepts and new practical approaches for resolving certain key questions in producing certain goods and services for the public, of establishing a true industry for man, for the worker and creator of the socialist society. The main and most essential thing which characterizes and unites the designated directions of the 13th Congress and the resolved questions of the conference into a single plan and single goal is that on the basis of the sectors, by introducing new and progressive production methods, employing new raw products and materials and converting to a unified technical policy, we must bring about a further increase in the production of consumer goods and services, broaden the assortment and improve the quality, we must accelerate their replacement and the creation of new commodities with higher consumer properties. In this manner scope will be provided for the more intense manifestation and action of the law discovered by V.I. Lenin of the exhauling of need,(2) the development of the existing material, spiritual and social needs of man in our society, the arousing of new ones and the ever fuller and simultaneous satisfying of these needs.

## I. The Influence of Scientific and Technical Progress on Consumer Consumption

The clear assessment of the 13th Congress that "...our nation is still at the very outset of the great and difficult path to the heights of scientific-technical progress,"(3) applies completely to the production level of material goods and services for the public. All of this shows what remarkable prospects are opened up for qualitatively new progressive changes in consumer consumption. Here we will not examine these prospects but will merely elucidate the nature of the ties of scientific and technical progress with consumer consumption and we will pose certain important and specific problems of consumption which can and must be resolved in the course of its ascending development with the aid of scientific and technical progress.

The ties between scientific-technical progress and consumer consumption are two-way and complex. Of crucial significance are the numerous and diverse influences of scientific and technical progress on consumption and through this on the standard of living of the people and the betterment of the socialist way of life. In turn, consumer consumption makes substantial and constant demands on scientific and technical progress and more specifically on the materialization of its results in the means of life (material goods, services and housing) and the conditions for vital activities. A change in the direction of analyzing these ties makes it possible to show separately the role of each of the two processes as a factor in the development of the other.

The influences of scientific and technical progress on consumer consumption are indirect and direct. The indirect influences arise outside consumption but in one way or another are directed at it and reach it by various ways. These are the influences of scientific and technical progress which: occur and are established through the development of the productive forces and the production relations; are transmitted to consumption by other phases of the social reproduction process (production, distribution and exchange) and mostly through production as well as through the main spheres of the national economy (production and nonproduction); which are the consequence of the ascending development of the individual national economic sectors; are influenced by the achievements which are internal for the country or are external to it (foreign); are the result of discoveries and achievements in individual areas of science and technology. The direct influences of scientific and technical progress on consumer consumption, that is, the influences which arise and appear directly in the consumption sphere, are transmitted and established by: fundamentally new and improved material goods and services which come into the consumption sphere and which make it possible to satisfy the needs of the population on a higher level; the development and improvement of the main complexes of related and complimentary material goods and services in consumption; the increase in the supply of the public with technically more complex and more advanced consumer durables and their accumulation in the sphere of consumption; changes in consumer value, in the quality of the material goods and services as well as social exchange value of consumer goods.

Regardless of whether the influences of scientific and technical progress on consumer consumption are direct or indirect, in all instances the scientific and technical achievements are created in phases of social reproduction and in

spheres of activity which precede the phase and respectively the sphere of consumption, and foremost in the scientific-technical and production sphere. Scientific and technical achievements are not created in the consumption sphere. It merely employs the results of these achievements. However, due to this a new, higher quality of manpower is formed and this is the main engine of scientific and technical progress.

In the described manner but in the reverse direction, the response of consumer consumption to the indirect and primarily to the direct influences of scientific and technical progress is passed on and considered and respectively its ever-higher demands are placed on the scientific and technical improvement of production of the material goods and services destined for the population as well as on trade and public services.

The influences of scientific and technical progress on consumer consumption are also important in the consequences which sooner or later arise and appear and are shorter or longer, greater or smaller. The disclosure of the more important consequences from the influences of scientific and technical progress on consumer consumption and through it on the standard of living, the socialist way of life and the shaping of people as workers, creators and socialist personalities is a very essential element in the analysis of the interaction between the two processes. The consequences from scientific and technical progress are as follows: the development of demands of the public; the complicating and improving of management and the employment of accumulated material goods in the consumption sphere; the better utilization of nonworking and free time; the intensification of consumer activities; the change in nature and the environment; the development of the socialist way of life. Precisely in this context a series of problems arise related to the direction of the influences of scientific and technical progress on consumer consumption.

## II. Criteria and Requirements in Evaluating a Product as New or Improved

At present, such an evaluation is carried out according to definite rules and reflects primarily the viewpoint and interests of the producing organizations and enterprises. They determine which product of theirs is new and improved or propose that the standardization, price and other bodies as well as their contractual partners agree upon and deliver it as such. Each year a certain portion of the produced commodity product is described and reported as new or improved. Its relative share in the total commodity product of industry has increased from 5.9 percent in 1975 to 11.7 percent in 1984, including just new products have changed over the years from 2.3 to 4.3 percent.(4) Consumer goods are replaced and modernized more rapidly than the means of production. In 1985, in the textile industry 21.5 percent of the commodity product was reported as new and improved, 50.4 percent in the garment industry, 31.9 in the leather and footwear, 9.0 in the glass and porcelain-earthenware, 23.8 percent in the food industry and so forth.(5) An analysis of the data indicates that the produced consumer goods from the various sectors are replaced and improved generally from 2 to several years. But the question is just what sort of replacement and improvement is this, is it really scientific and technical and what is achieved by it? This question has been raised and discussed on various grounds as it involves the planning and reporting of

commodity production, the standardization and price formation for these goods, the remuneration of labor and the measuring of effectiveness. However, this has not been settled satisfactorily and particularly in terms of consumer goods production.

Various authors have offered different criteria or features for newness and modernness of goods, for example, depending upon whether they: a) arouse and satisfy new demands; b) satisfy known, established demands in a new way; c) differ from the existing ones in new, better property; d) are judged as new on an international scale; e) are produced with lower expenditures of social labor and are cheaper.(6) Consequently there are different considerations for judging commodities as new or improved. This is natural, because the replacement and improvement of products resolve different tasks related to the development of their consumer value, social value, competitiveness and effectiveness. There can be no doubt that a predominant share of the products judged as new and improved is really such and frequently this is the result of the introduction of scientific and technical progress in one or another type of production. A significant portion of the new and improved commodities find good acceptance on the domestic market and in the consumption sphere. But it is also known that the new and improved goods also include items which are not such from the scientific and technical viewpoint, they are judged as new and improved even for the reason that they have insignificant changes, including changes in their names. It is not a rare phenomenon for certain "new" and "improved" articles to have less satisfactory consumer properties than the properties of the "old ones" which they are replacing. All of this is done in the aim of reporting a greater but seeming activity in replacing and improving consumer goods, in fulfilling the plans and promises or for ensuring the establishing and accepting of higher and more advantageous prices for the producers. It is a fact that there are many new and improved articles, particularly high-fashion and luxury ones which are not offered on the market and in consumption but must be depreciated.

In the consumption sphere, the estimates of newness and modernity of the articles do not always coincide with their estimates as new and improved in the production sphere. From the consumption viewpoint, new and improved are the goods (and services) which are not only such from the scientific-technical and production viewpoint but also which find ever-greater recognition in the consumption sphere. These are goods which are sought and consumed by the public in growing amounts, even at a more rapid pace in comparison with the consumption of traditional and nonimproved goods. Conversely, a dependable sign that the given commodities are obsolete or not related to scientific and technical progress is when the demand and consumption of these goods decline or do not increase, in spite of the fact that there is unsatisfied solvent demand. For this reason it is essential to pay particular attention to studying the solvent search for and consumption of goods which are judged as new ones.

But this is not sufficient. We must also enrich the criteria and practice of evaluating consumer goods as new and improved. Their assessment must reflect the combined viewpoints and interests of production and consumption. It is advisable that the requirements for the evaluation, particularly for a given product which has been improved, include the obligatory requirement that it be

certified from the consumer viewpoint. This can be done if the proposal to recognize each product as improved be based, according to its specific purpose, and in addition to the production-technical improvements and economic indicators, also by the consumer properties inherent to it and with which it surpasses the replaced or eliminated product as well as what this saves the consumer. In this manner we will securely protect not only the interests of the producers but also the consumers. The replacement and improvement of consumer goods cannot be an end in itself. This must serve to satisfy the public demands for an ever-higher scientific and technical level. This practice will conform to the fundamental party thesis that the organization and acceleration of scientific and technical progress are not an end in themselves but rather a powerful means for achieving the political, economic and social aims of the party.(7) And there is no more important social goal in this area than the achieving of this idea.

An even more important question is the one of judging a given product as completely new as this creates the possibility of arousing and satisfying new demands by employing the achievements of scientific and technical progress. Such a product cannot be compared with any other in the nation. It can be judged and compared not by the public but rather by the designers, the engineers and producers in the production stage only with a similar product from the known best world models. For this reason the approach to assessing it as new must differ from that for an assessment as improved.

With the production of new, unknown or little-known material goods for the public, an active role in introducing and establishing these in the sphere of consumption will befall scientific-technical progress and production and not the demands and solvent demand of the public (as is the case with known and traditionally produced goods). This expresses one of the particular features of the relationships of scientific-technical progress and, respectively, the production which introduces it and the development of demands and consumption. In this instance it is apt to remember that: 1) "Demands develop along with the means of satisfying them and in direct dependence upon the development of the latter"; 2) "Most often demands stem directly from production or from a series of things based on production."(8) Only when a new product begins to be offered to the public and to be consumed does a recognized necessity arise of studying its solvent demand and it becomes finally clear whether this is to be recognized as new and useful in the consumption sphere.

What has been said concerning the assessments of improved and new products applies in principle to the assessments of improved and new consumer services. But at present, such estimates are not made in spite of the fact that they are as essential and useful as are the assessments of industrial commodity products as improved and new. The characterization and evaluation of a portion of the various services in terms of the sectors and activities as improved and new will have certain particular features which must be studied and described in the corresponding requirements. But this must be done, because the improving and replacement of services with the aid of scientific and technical progress are becoming established as some of the main areas for the long-range and progressive development of consumer consumption.



It is also essential to distinguish new and improved material goods (as well as services) which are and which are not the result of the introduced achievements of science and technology. At present, not all the commodities reported as new and improved are such due to scientific and technical progress. A portion of them is considered as new and improved in terms of other features such as changes in style, the substituting of certain materials by others which are not better and so forth. Thus it will become possible to take into account the actually obtained results from the introduced and utilized scientific and technical achievements.

### III. The Saving of Time in Consumption Activities of the Public

The law of the saving of time operates in all phases of the social reproduction process, including in the consumption phase. Moreover, no matter now paradoxical it may seem, under the conditions of scientific and technical progress, the importance of time and its effective utilization in all its forms (working, nonworking and free) increases greatly both for the individual person, for the individual family and for society as a whole. The saving of time everywhere and in everything has become one of the most important criteria of how such a diverse human activity, including consumer activity, is adapted to the dynamics of a life engendered by the dynamicness of scientific and technical progress. For this reason the observance of the demands of the law of saving time is inseparable and obligatory in organizing not only human labor activity but also consumption activity. The fund of material goods and services for consumption increases constantly and more rapidly in comparison with the slower growth of the time fund for its consumption. This naturally leads to the intensification of consumption activities by the public. From 1960 to 1984, the intensity of these activities as measured by the ratio between volume of consumed food and nonfood products and services in comparable prices and the total volume of nonworking time, when consumer activities are busiest, increased by 3.6-fold and in terms of the total time budget of the population by 3.7-fold. Analysis shows that with each passing year, more and more material goods and services were consumed and from this it follows that consumer activities per person, for each Bulgarian family and for all the population intensified more and more and became more efficient. In comparison with 1985, national income must rise by around 3-fold by the year 2000. On this basis the consumption fund for the population will increase while its consumer activities must be intensified even more. This is not so easy to achieve without creating certain additional prerequisites. This is why the problem of seeking out new opportunities for saving time in the consumption sphere will become evermore acute and more difficult to resolve. It can be resolved most effectively primarily through the ever-wider use of scientific and technical achievements for various purposes of improvement and for the consumer activities of the public.

Numerous facts indicate that scientific and technical progress up to now has been one of the main and most important factors for the development of consumption, for the intensifying of consumer activities by the public and for consuming evermore material goods and services per unit of total, nonworking or free time. Due to this thousands of new consumer values have entered the everyday life of the public; kitchen, cultural, domestic and other appliances in the household economy have increased, become more diverse and improved

while the opportunities for the simultaneous and active employment of these appliances have widened. Public organized services and the related obtaining of evermore and better quality services by the public per unit of nonworking or free time have developed and been modernized. Analyses indicate that one of the most characteristic features in modern domestic and socially organized consumer activity under the conditions of scientific and technical progress is the saving of time for consuming individual material goods and services. But still the intensification of these activities is still not the maximum possible due to various factors.

The range of modern time-saving machine building, chemical and other products for home use and which are available on our domestic market, even though this is becoming ever-greater, is significantly smaller in comparison with that available in the technically and economically most advanced countries. This requires rapid growth by developing production on a qualitatively new scientific and technical base, by expanding specialization and cooperation with the production of the other socialist countries and primarily the CEMA member countries as well as by increasing the imports of modern products. For this reason it is anticipated that the production of complex household appliances during the Ninth Five-Year Plan will double while the product range will be enriched with high-quality articles on a level of modern design. Production will be started of high-quality household electronics, of electronic and mechanized equipment and instruments for free time, recreation and tourism. (9)

Still large are the losses of nonworking and free time by the public in locating and purchasing commodities and in obtaining various socially organized services. In a large number of small settlements, even the providing of domestic services is very weak. The servicing facilities in the larger settlements are rather far removed from the residences of a portion of the population and the place of work of the employees. Many of the services are protracted or performed slowly, there are long lines to obtain trade, domestic, health, administrative and other services due to the insufficient technical equipping and the lack of a true socialist organization of labor. These are some of the reasons that the workers employ not only the nonworking time but also working time to seek out scarce goods and services, labor discipline is violated and the labor results deteriorate. It is extremely essential that the designated shortcomings be largely eliminated during the Ninth Five-Year Plan. Not only a rapid increase in the production of the domestic machine building and chemical products should contribute to this but also the production and offering of all consumer goods which are still not available on the domestic market and do not cover the solvent demand for them. A balanced and calm market for all basic commodities which the population requires is an exceptionally important condition for saving their nonworking and free time. The carrying out of the tasks set by the mentioned July Conference will help greatly in resolving the problem. Of particularly great importance in this regard will be: a) the shift to a unified technological policy which will raise product quality to a much higher level; b) the reconstruction and modernization of the physical plant of existing production; c) the breaking down of the existing departmental barriers in organizing the production of consumer goods; d) the building over the next few years of hundreds of new, small but modern equipped, highly-efficient industrial

enterprises which are flexible in their activities and will specialize in the production of consumer goods; e) widening the rights and increasing the opportunities for the commodity producers to enter the domestic market; f) the planned accelerated development of a number of important social services, particularly domestic and construction-repair, and which must increase, respectively, by 70-80 percent and by 3-3.5-fold, in switching to the ever-wider introduction of industrial methods for performing them. Particular attention will also be paid to services satisfying new needs of the population. (10)

Of essential significance for saving time and for increasing the intensity and efficiency of consumer activities under the conditions of scientific and technical progress will be the effective, further transfer of functions related to: a) additional processing of consumer goods from the consumption sphere to the sphere of social production and social services thereby increasing the degree of their readiness for immediate consumption; b) the receiving of certain services at home, near the home or at the work place whereby the time of their consumption would also be saved.

Significant reserves for saving time in the consumption sphere can also be found in the more rapid development of certain collective forms of socially organized consumption of material goods and services, since the opportunities for higher scientific and technical equipping of the public servicing institutions and for the mass employment of effective scientific and technical innovations at them are much greater than at home, with personally organized consumption.

In all the examined instances, by reducing the more inactive time of consumption related to the creation or additional processing of consumer goods under household conditions, due to the numerous shifts of demand and the obtaining of services at public institutions, the time for more active consumer activities will be increased and here their intensity and efficiency as a whole will improve. For this reason, immediately when possible and advisable, it is essential to widen the availability of public services which are provided at home, near the home or at the work place as well as in small population points.

There are also reserves for intensifying consumer activities of the public by improving the use structure of the public's nonworking and free time and particularly on the basis of scientific and technical progress it will be possible to reduce the excessively large expenditure on time spent traveling on public and private conveyances, for participating in poorly organized, repetitive and socially ineffective social measures and so forth.

#### IV. The Saving of Material Goods and Reducing Additional Material Expenditures in the Consumption Sphere

Both of these, like the saving of time, have direct bearing upon the intensification and greater efficiency on consumption.

The economic utilization and consumption of material resources and material goods are an objective necessity for all phases of the social reproduction

process and for all spheres of human labor and other vital activities. And not only in order to ease the shortage of raw products, materials and production capacity in material production and the national economy. This also determines the effectiveness of social reproduction and the growth of national wealth which bring about an improvement in the prosperity of the people.

The necessity of carrying out a strict regime of thriftiness in the national economy and particularly in material production is well known. But in the consumption sphere the question of economy and reducing the additional material outlays and losses is becoming evermore pertinent. Numerous facts from daily consumer activity of the public indicate that with a rise in its income and its material wealth, there is also a rise in the share of improperly utilized, spoiled and defaced material goods. A person is inclined to save these when they are not available or only some are supplied, and tends to consume them wastefully and even destroys them when they are in surplus. Also significant are the additional material expenditures in the consumption sphere and which are made due to the circumstance that a portion of the food and nonfood products received by it are not sufficiently ready for immediate consumption or are not sufficiently reliable. In this manner additional expenditures are made on fuel, electric power, and water, money for paying for the fixing of household appliances and other consumer durables. From this it follows that not the entire fund of material goods which is reported as consumed during a given period actually serves to satisfy the needs of the public. A portion of this "drops out" in this sphere for various reasons and not lastly due to the bad organization of consumer activities loses its value or is not consumed.

The need to save material goods and material expenditures in the consumption sphere has not been emphasized in the economic literature. From the practical viewpoint it is uncustomary to speak about savings in this sphere as ordinarily it is felt that since the products go into it, they are designed precisely for this, that is, to be consumed and used and cease their existence as consumer values. But for the social reproduction process and its effectiveness, it does make a difference what is the fate of the products which are in the consumption sphere. Only economically employed products, that is, products which satisfy the real demands of the population, contribute to increasing the effectiveness of social reproduction. Uneconomic consumption and the related wasteful consumption and destruction of material goods in the consumption sphere and the surplus additional material expenditures made in it increase the unnecessary tension in demand and supply of material resources with their processing and sale for the purpose of producing products which subsequently spoil and are destroyed due to the unsatisfactorily organized and uneconomic human consumption activity.

In posing the question of the need for economy of material goods and additional material expenditures in the consumer consumption sphere, it is not a question of instituting ascetic consumption. Socialism establishes ever-better conditions for the fuller satisfying of the growing demands of society's members and for the ongoing development of consumer consumption on an ever-higher level. It is a question of reasonable, rational economies and of preventing the wasting and destruction of consumer values. The economies

provided in this manner are of dual importance. On the one hand, they facilitate the processes of the creation, importing, distribution and utilization of material resources and they relieve production, the national economy and expanded socialist reproduction. On the other hand, it is possible to invest the saved material resources in the production of additional consumer values.

The application of specific conditions of savings in the consumption sphere does not run contrary to the objective demand of the main economic law of socialism, that is, the demands of the people are to develop continuously and to be ever-better satisfied. On the contrary, it operates and must be employed in accord with this requirement. Any well-organized society such as a socialist one grows richer and satisfies evermore fully the needs of its members not only by producing more, but also by saving more, in bringing consumption in line with actual needs. The elimination and limitation of the factors which lead to the wasteful consumption, spoiling and destruction of material goods in the consumer consumption sphere are some of the most important conditions to provide economic and at the same time full consumption. All of this means that effective organization, economic and other measures must be adopted and implemented in order to create the prerequisites, and including with the aid of scientific and technical progress, to increase economicness and reduce uneconomicness in consumer activities of the public.

This can be achieved by various ways. Crucial is the role of production and its improvement in the aim of producing evermore new, high-quality material goods which are more economic and effective in consumption. This can be achieved by carrying out the following: increasing the durability and shelf life of food products and ensuring the maintaining of their consumer properties with temperature changes and other unfavorable external influences; improving the strength, durability and other quality indicators of food packaging as due to their insufficient strength and durability at present, enormous amounts of these are wasted in the consumption sphere as well as in the sphere of exchange; diversify the batching of food products as well as all nonfood products (chemical and so forth) designed for single use, in accord with the needs of the public in the aim of creating conditions for their proper consumption. It is essential to increase the specific quality indicators of various types of nonfood products designed for long-term use, as well as the indicators of durability, waterproofness, flexibility, color-fastness, reliability, trouble-free operation and lack of defects with protracted use and so forth; the fuel and energy intensiveness of household and other domestic equipment must be reduced and the methods of its utilization and maintenance simplified; the quality of repair services must be raised in the aim of avoiding or minimizing the necessity of subsequent repairs. Diversifying market availability and improving the supply of spare parts for the public to maintain and fully utilize household and other domestic equipment, expanding the production and offering complete household furnishing with multifunctional consumer use and providing prompt and effective economic force (chiefly through retail prices) for limiting uneconomic consumption of extremely scarce items and services are also important areas for improving the effectiveness of consumption.

There are significant reserves for saving food resources in consuming these in public dining. But due to shortcomings in the production and supply of food as well as in servicing, large amounts of valuable food products are not fully consumed or are destroyed.

The savings of material expenditures in the sphere of consumer consumption can also be made in rationalizing and significantly increasing the purchase from the public of unconsumed things, materials and wastes described as "secondary raw materials" for the manufacturing sectors of industry. In this way in exchange for unused material wealth, the population receives monetary income, in employing this to widen its consumption while the national economy is provided with exceptionally valuable (and including scarce) raw materials. But in comparison with some of the economically more advanced countries, the purchase of such "secondary raw materials" in Bulgaria is unsatisfactory. For example, the total return rate of secondary raw materials in 1984 was 45 percent in West Germany, 100 percent in Switzerland and 22 percent in Bulgaria. In West Germany from 25 to 80 percent of the various plastics are produced from secondary raw materials, while in Bulgaria the figure is from 5 to 11 percent. The use factor of secondary paper raw materials in producing paper and cardboard in France is 36 percent, 42 percent in the GDR, 45 percent in West Germany, 52 percent in England and 31 percent in Bulgaria.(11) Enormous amounts of paper, metal, glass, plastic, textile and other wastes are thrown out and destroyed as unusable and pollute the environment. There is a number of organizational, scientific-technical and economic reasons for this. one of the most important economic reasons is that the public is not sufficiently economically interested to offer for purchase the unused things and wastes, since the time lost and the transport costs which are required in bringing the goods to the redemption centers are not covered by the current purchasing prices. The retail prices and the purchasing prices for all types of packaging and wrappings must be significantly raised in order to create a strong material incentive and an economic force to ensure their high return rate. To the prices of all machine building and other articles (electric heaters, washing machines, electrolytic batteries and many others) it is essential to add in surcharges (at least 20 percent of the retail price) and which are to be paid by the purchasers. In returning worn out things to the redemption centers, they will be reimbursed to the amount of the surcharges. Only this and not so much by agitation concerning the national economic benefit from the delivery of secondary raw materials can the desired results be obtained.

The saving of material goods depends also upon the consumers. And this is a question primarily of their education and of developing the habits and style of consumption which make it natural to try to maintain consumer values in the consumption sphere, to have proper and full use of the consumer goods, with the attitude toward these being determined not only by personal needs and interests but also by the needs and interests of society as a whole and the social reproduction process.

#### V. The Rationalizing of Consumer Consumption

This means that the consumer activities of the public are to be carried out in accord with the biddings of science, with the demands of forming a socialist

type of consumer and a completely developed socialist personality, with the establishing of the socialist way of life, according to scientifically sound and experimentally proven rational standards, ratios, structures, methods and instructions for the consumption of foodstuffs, nonfood products and services by the various sex, age, professional and other groups as well as by the population as a whole.

Rational consumption is closely tied to economic but is not identical to it. Rational consumption differs first of all in the fact that it is carried out on the basis of sound, tested and proven value criteria, standards and indicators of rationality from the standpoint of natural biological, physiological, health, hygienic, educational, aesthetic and moral needs of the consumers and of society as a whole. The observance of the principle of rationality assumes a rise in consumption to a degree that rational needs are fully satisfied. This is in opposition to an increase in consumption which significantly surpasses needs and only in this manner leads to the saving of consumer values.

The opposite of rational consumption is irrational. Instead of satisfying the actual needs of a person and serving his all-round development, irrational consumption causes a person physiological, health, moral and other harm. For precisely this reason, protection against irrational consumption is more closely linked to economic consumption, in spite of the fact that in this instance the savings of material goods have different grounds and arise out of other factors.

The delimitation of consumption into rational and irrational is based on the following objective facts: a) at a given stage in the socioeconomic development of a nation, one or another material good or service is still not sufficient to fully satisfy the rational needs of the public, then this satisfaction is still irrational and is less than the amount of the actual needs of the public and the individual members of society; b) not all consumed material goods and services are used to satisfy the actual needs of the public, the individual families and members of society, with a portion of these consuming more than is necessary and useful.

The ensuring of rationality in the consumption and more specifically for individual groups of material goods and services is a dynamic process which passes successively through the phases: a) of irrationality due to the shortage of one or another material good at the given stage and the impossibility of fully satisfying the respective, greater needs of the public; b) of rationality which is achieved with an approximate congruity between the consumption of the given material goods and services and the actual demand for them; c) of irrationality due to a surplus of the given material goods and services, the irrational value orientation of the consumers and a consumption which significantly surpasses the amount of actual needs.

The employment of the rationality principle is of particularly great significance with the ongoing increase in the production and offering in material goods and services under the conditions of scientific-technical progress and the increasing monetary income of the population whereby its opportunities are increased to consume more and more, including above the

rational need. The critical cut-off point is here precisely the amount of the rational need viewed in its dynamic development. The more desirable the faster saturating of these demands is, the more undesirable their oversaturating which develops into irrational consumption.

In an analysis of the available information concerning the period from 1960 to 1985, important trends are disclosed in the rationalization of consumer consumption, including as a result of the beneficial influence of scientific and technical progress.

Consumption of the main groups of material goods and services has been increasing constantly and the degree of satisfying the rational needs of the public has risen.(12) The consumption of services surpasses the consumption of material goods while the consumption of nonproduction services is increasing more rapidly than the consumption of production services. Relatively more resources are being spent to satisfy spiritual and particularly social needs in comparison with the satisfying of material needs. Relative consumption of high-quality material goods and services is increasing.

The 13th BCP Congress has set the task of bringing about a new, significant increase in the consumption of the main food, nonfood products and services and this will basically guarantee rational food standards and will increase the degree of satisfying all the nonfood products and services consumed by the public.(13)

In order to provide further rationalization of consumer consumption, new prerequisites must be established. In this instance the crucial prerequisites are established primarily by widening and improving production on the basis of scientific and technical progress in the aim of producing evermore new, diverse and high-quality goods and services in accord with the rational needs of the public. Along with the designated requirements, in line with the resolving of the problem of economic consumption, here of particular importance is the conformity of the production of:

- a) Food products with the recommendations of science concerning rational nutrition;
- b) Clothing, knitwear and footwear with changes in the physical data of the different groups of the population and in accord with the physiological, ergonomic and other requirements;
- c) All home furnishings with the change in indicators characterizing the state and prospects for increasing the number and size of dwellings in Bulgaria;
- d) All articles for leisure, recreation and so forth in accord with the change in the free time of the public.

Also of important significance for the rationalizing of consumption are the conformity of imports to the rational needs of the public; the organizing of various types of social services in accord with the requirements of rational



satisfaction of personal and collective needs; the establishing and gradual reaching of long-range rational standards for the per capita consumption of services; the employment in certain instances of an economic mechanism (primarily by retail prices) for bringing consumption into conformity with rational demands.

An important prerequisite for the rationalizing of consumer consumption is a rise in the cultural level of the consumers and personal and publically organized collective consumption. Without this prerequisite the adapting of production, imports, social services and the supply of food and nonfood products and services cannot automatically or sufficiently ensure the desired rational consumption. The development of a person as a consumer who knows what is necessary and useful and what is superfluous or harmful for him is determined by his personal qualities and primarily by his cultural level. In this instance it is wise to recall the words of Marx that a man "in order to consume diversely must be highly cultured." (14) The more material goods and services increase, the more essential it is for each person, every family and the entire population to organize their consumption evermore rationally.

The indoctrination of a person as a cultured and rational consumer is one of the essential traits of his all-round development. Scientific and technical progress constantly changes not only the material goods and services offered to the public but also the opportunities for their rational use. This creates the necessary prerequisites for increasing the culture of a person, including as a consumer, as well as of personal and socially organized consumption. The indicators in this regard have risen, although the opportunities of the production and trade organizations and enterprises to influence the awareness and conduct of the consumers are not sufficiently utilized. These are expressed in the increase and diversification of information concerning consumer properties and the purpose of goods described on their packaging or in other ways, demonstrations of how more complicated household, electronic equipment is to be used and so forth. The mass information media also influence the conduct of consumers by disseminating the appropriate knowledge and advertising the properties of food and nonfood goods and services and their availability on the market. Information is also exchanged among the public on the consumer properties of the goods and services.

\* \* \*

For resolving the designated problems, under the conditions of scientific and technical progress, of the most immediate significance will be the carrying out of the designated decisions of the 13th Party Congress and the fundamentally new tasks which Comrade T. Zhivkov posed in his concluding speech at the July (1986) conference devoted to certain vitally important questions of producing more goods and services for the public. (15) These are a true program for fruitful activity by all commodity producers and tradesmen and all servicing organizations which are responsible for the state of our domestic market as well as for the further progressive development of consumer consumption.

#### FOOTNOTES

1. "XIII kongres na BKP. Dokladi i resheniya" [13th BCP Congress. Reports and Decisions], Sofia, Partizdat, 1986, pp 11-16, 78-95 and 189-215.
2. V.I. Lenin, "Soch." [Works], 2d Edition, Vol 1, pp 95-96.
3. "XIII kongres na BKP...", pp 76-77.
4. "Statisticheski godishnik na NRB" [Bulgarian Statistical Annual], 1985, p 198.
5. From data of the Central Statistical Administration.
6. A. Levin, "Nauchno-tekhnicheskiy progress i lichnoye potrebleniye" [Scientific-Technical Progress and Personal Consumption], Moscow, 1979, pp 53-61.
7. "XIII kongres na BKP...", p 79.
8. K. Marx and F. Engels, "Soch.," Vol 3, p 29; Vol 4, p 82.
9. "XIII kongres na BKP...", p 204.
10. Ibid., p 218.
11. From data of the Secondary Raw Materials Economic Corporation.
12. Information given in a footnote.
13. "XIII kongres na BKP...", p 217.
14. K. Marx and F. Engels, "Soch.," Vol 46, Part I, p 334.
15. RABOTNICHESKO DELO, No 188 of 7 July 1986.

10272

CSO: 2200/10

ECONOMY

HUNGARY

# INCREASING PRIVATE SECTOR FAILURES, STAGNATION REPORTED

Budapest FIGYELO in Hungarian 16 Oct 86 p 3

[Article by Istvan R. Gabor and Tamas D. Horvath: "Failure and Retreat in Small Trade"]

[Text] Since 1983 the increase in the number of private tradesmen may be attributed solely to retired people and employed persons having joined the ranks of tradesmen. For several years now, the number of those who view their trade as a secondary job has increased rapidly, while the number of those who view their trade as the primary occupation has at best stagnated. Accordingly, the unfavorable layering process that has begun earlier, has gained strength. To top it off, in recent years the increase has been limited to the taxi business and to cargo transportation.

Changes in the Number of Tradesmen -- 1983-1985

Adjusted figures (total number of individuals minus those engaged in the taxi business or in cargo transportation.)

YEAR	MAIN OCCUPATION	SECONDARY OCCUPATION	PENSION SUPPLEMENT	TOTAL
1983	290	3506	1131	4927
1984	-3432	3344	1189	1101
1985	-2440	1451	1014	25

The adjusted figures show even more convincingly the aforementioned unfavorable trend. The rate of growth for those who consider their trade as their main occupation is on the decrease too. The increase of 25 persons(!) shown in the adjusted total speaks for itself. This is cause for concern even if one considers the fact that meanwhile, the number of independent business partnerships that meant the alternative [to individual private small trade] has risen from 1684 to 3201 between 1983 and 1985.

Incentives for small trade?

Once again disregarding taxi drivers and haulers, we find that in recent years not only the the number of tradesmen's permit applications had stagnated, but also that the number of those who discontinue their small trade increases year

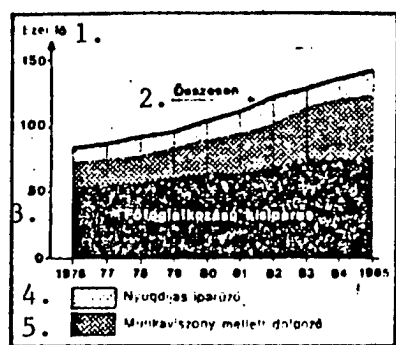
after year. If the present trend continues, within a few years the number of those who discontinue their small trade will exceed the number of those who hold tradesmen's permits.

While each year about 2500 persons change their status of being tradesmen as their secondary occupation into their primary occupation, simultaneously the same change also occurs in the reverse. Viewing the structural development of private small trade, the former represents a normal, favorable phenomenon, while the reverse trend is unfavorable.

Except for the introduction of private taxis and private hauling, and for the discontinuation of the opportunity for councils to weigh whether or not to issue tradesmen's permits, no significant initiative has taken place in terms of policies that pertain to domestic small trade. (The taxi and hauling business is of marginal significance from the viewpoint of developing entrepreneurial small trade.) This [lack of initiative] is demonstrated by the fact that in spite of raising the number of permissible employees to 10 in any given small industrial plant, over and above the 6 employees that have been permitted previously, the number of tradesmen who employ more than 6 persons is insignificant. In 1985 all of Hungary had 43 tradesmen who legitimately employed more than 6 persons.

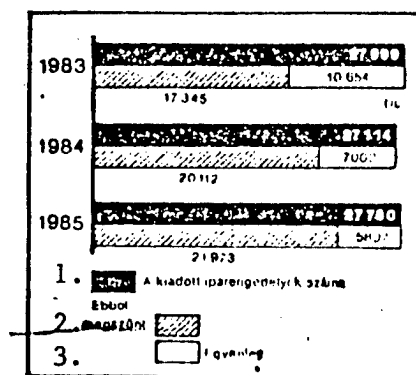
And then, the newest reduction in the rate of progression with respect to taxes is an outright fiction. It amounted to no more than a belated, and then only a partial adjustment to the increase of nominal wages and price levels that has taken place in the meantime. In theory at least, this [type of adjustment] had occurred automatically prior to the adjustment of tax rates, increasing the tax bite taken from small tradesmen's income in favor of the state.

At the same time, small tradesmen in particular have been struck rather heavily by a more recent action: the increase in social security contributions. At the same time the practice of tax assessments based on estimates made by councils--frequently on estimates revised after the fact--remained an unchanged characteristic of the practice, and with it the exposure of tradesmen.



Distribution of small tradesmen according to number and occupational type, in number of individuals, 1976-1985.

1. 1,000 individuals
2. Total
3. primary occupation
4. retired
5. secondary occupation



Number of trade permits issued and cancelled, in number of individual permits, 1983-1985

1. Number of permits issued
2. Number cancelled
3. Difference

## Reasons for termination

During the period 1981-1985 a total of 134,000 tradesmen's permits had been issued. Of these tradesmen 94,000 had terminated their activities. (The figures adjusted to exclude taxi drivers and haulers are 104,000 and 87,000 respectively.) The ratio of those who return their permits vis a vis the total number of tradesmen is 15 percent. The actual rate of mobility, which is equal to the ratio of the number of those who terminate vis a vis the total number of tradesmen is close to 35 percent.

According to data gathered by the National Organization of Artisans [KIOSZ], the reasons for termination in 1985 were as follows:

### Causes of termination within small trade-1985; distribution expressed in percentages

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Employment in the primary economy . . .	15
Advanced age, illness, death . . . . .	11
Retirement . . . . .	9
High public burden . . . . .	9
Lack of orders . . . . .	6
Personal reasons . . . . .	5
Lifting of permit . . . . .	5
Joining an economic work collective [GMK]	1
Other reasons . . . . .	4
Unknown reasons . . . . .	35
<hr/> Total . . . . .	<hr/> 100

From among the 1985 terminations several may be traced to demographic reasons, including retirement, advanced age, illness and death. More precisely, this is a result of the large proportion of advanced age-retired-persons who became tradesmen.

Along with demographic reasons, the shape of another group of factors emerges. This factor has an economic character. The causes for termination within this group define the factors that make private small trade activities fail. The low profitability and insecurity of private small trade activity is shown by the acceptance of employment in the primary economy; a lack of demand is demonstrated by the lack of orders; and, the effect of regulation is demonstrated by the high level of public burden.

A small economic cooperative named Economix has studied the general conditions of domestic small enterprise. The study was sponsored by KIOSZ. The empirical goal of the study was to analyze the economic reasons for termination of small trade activities. As part of our research we have interviewed 40 tradesmen who have handed in their licences. The time frame was January, 1984 through June, 1985. The place was the 6th and 7th districts of Budapest. Those who had practiced their trade for more than 5 years were noticeably more willing to cooperate. The individuals within this group have established fundamentally stable existences, including several who have returned their permits after having been active for 30-40 years in their



In the context of private small trade, the term "economic environment" means all the factors that affect the various trades, perceived in a broad sense. These include the feasibility of material acquisition and the purchase of machinery, market connections, protection of interests, regulatory actions, etc. Several of those interviewed had mentioned that material shortages and the low quality of raw materials frequently experienced in the primary economy, impacts even more severely upon small trade. The acquisition of machinery and equipment poses even greater problems, especially if they are to be imported. As to investments, the uncertainty that can be seen in central determinations affecting small trade aggravates the situation. This feeling of uncertainty is reflected in the fact that while active, most of these entrepreneurs preserve the possibility of immediate, quick retreat.

With respect to regulatory burdens, the first thing they mentioned was the overly complicated licencing proceeding, followed by financial injuries suffered from irrationally high amounts of withholdings. This has been a recurring theme in all interviews. In particular, they felt that the occasionally repetitious tax reassessments continue to intensify their feeling of uncertainty. Several individuals recognized the fact that taxation in Hungary is totally devoid of morality and therefore is unacceptable, nevertheless they condemn [blame] the regulatory efforts and the tax administration for their situation. The rules view tradesmen's income as compensation for work, and measure the income in a manner identical to income derived within the primary economy. The system excludes the possibility of giving recognition to legitimate entrepreneurial profit.

As part of the economic environment we may also mention that beyond certain rules that have been promulgated, in everyday life one sticks to "traditions" by favoring state enterprises rather than private tradesmen.

According to the former tradesmen who have been interviewed, discrimination against private small trade remains the order of the day, even though [this practice] is on the decrease. And this situation is being further aggravated by the perceived absence of an organization that truly represents the economic interests of small trade.

#### The passable road

Using this sketch of Hungarian small trade, and the analysis of the interviews that have been conducted in two districts of Budapest with tradesmen who have relinquished their trade, we may state that the segmentation of the community of tradesmen has come into a sharper focus since governmental limitations with respect to entry into private small trade have been relaxed. It turned out that rather decisively, two trades serve as the threshold for mass influx into small trade, and that those two trades offer the least opportunity for subsequent legitimate expansion, alternatively, that those two trades have been jammed or filled to capacity. In contrast, within small trades that require capital and expert qualifications as well as appropriate connections for the trouble-free conduct of business, remained essentially sellers markets.

In contrast to the entry trades where retreat is largely due to business failure, those in the other trades relinquish their occupation after many years of practice and under comfortable financial conditions.

This reasoning then begs the following question: considering the fact that there continues to be a sellers market with respect to a number of trades (which, incidentally, constitute the backbone of all trades,) is there a need and a realistic possibility for the practical implementation of policies that favor small trade? These policies had been announced with great fanfare in the early 1980-s. Should we assume a posture by which governmental incentives, including tax incentives, would replace certain market forces? Even in the absence of barriers to demand, these market forces are incapable of boosting private small trade and its earnings.

However logical this kind of argument may appear, there are at least two convincing counter-arguments speaking against the use of governmental incentives.

First, governmental incentives would interfere with the evolution of competition, and competition is the only rational strategic goal in a buyers' market. In other words, governmental incentives would tend to perpetuate the conditions that made them necessary: they would invoke the "emergency" nature of the situation that called them into being and would turn into policies that limit or merely "tolerate" private small trade. Second, limitations imposed by government--contrary to their intended purpose--would most profoundly affect the lower segment of private small trade, that segment being the most insecure. Insecure, because it is this segment that finds it most difficult to circumvent rules and to survive [the effects of a slow economy], because of lack of capital, lack of assets and lack of connections.

For this reason the only passable road appears to be the practical implementation of policies that strengthen the supply side as well as competition, and in particular encourage an increase in the number of tradesmen who consider their trade as a primary occupation.

12995

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ECONOMY

POLAND

'500' LIST ANALYZED AS MEASURE OF REFORM PROGRESS

Warsaw PRZEGLAD TECHNICZNY in Polish No 34, 24 Aug 86 pp 18-19

[Article by Jerzy Nocun: "Five Hundred Enterprises -- And As Many Doubts"]

[Text] Several weeks ago, thanks to the Main Office of Statistics and the editors of ZARZADZANIE who publicized the matter, we had learned about the economic performance of the 500 largest enterprises of the processing industry in 1985. The matter has already become ordinary as it were, and this latest "List of the 500" is not eliciting as wide an interest as did its first edition. And yet, it is precisely now that this list is really beginning to be interesting, because it is complemented with new interesting data, and chiefly because it provides material for comparison that makes it possible to observe the changes occurring in the geographical pattern and economic and financial situation of our enterprises.

This is all the more interesting considering that the data on this recent "List of the 500" pertain to yet another year of application of the economic reform and hence mirror the adaptation of our enterprises to the assumptions of the reform and its economic mechanisms. The mirrored reflection is not too sharp but, unfortunately, very accurate. The 1985 "list of the 500" simply confirms -- apart from some exceptions, though their very existence should be consoling -- both the feelings of the society and the opinions of various expert groups that the reform has either lost its impetus or not acquired it yet, and that its solutions percolate with difficulty down to the enterprises or are often applied not in consonance with the legislative intent.

As regards the material for comparison, let us consider what is new in the latest list. Above all, it has become complemented with three interesting new types of data: share of exports in overall sales, size of overall financial obligations of enterprise, and extent of deduction from net profits to the development fund. As a result, it is now possible to assess the extent of deductions to the PFAZ [Plant Activation Fund] and to answer the question of whether enterprises can afford to reproduce their own fixed capital.

As many of 37 new names have appeared on the list, and of these the following are close to the top in volume of sales: MEGAT Community (ranked 9th, even though it is ranked 105th in profitability, as low as 163rd in labor productivity, and 81st in size of employee wages; and POLMAG Mining Company

(ranked as follows: 11th in volume of sales, 129th in profitability, 105th in productivity, 45th in wages). The situation of these two enterprises cannot be compared with the preceding year, because then they were not present on the list. But it is noticeable that they owe their high ranking owing to an administrative maneuver which resulted in merging under these appellations such major enterprises as the ZAMECH in Elblag, the RAFAKO in Raciborz, the DOLMEL in Wroclaw, and several mining equipment and machinery plants. A year ago they had ranked high on the list, but now they do not figure on it under their own names. The question of creating production communities on the basis of the revamping of mandatory enterprise associations into multiplant enterprises has become so well publicized that here a terse comment taken from the position of the TNOiK [Society for Scientific Organization and Management] on the economic reform will suffice: "This is a direction of evolution of that form which happens to be precisely the converse of the intended and desirable direction."

Hence also all the more credit is certainly due to some other novices on the list, such as the LENTA Haberdashery Industry Works in Lodz, which all at once found itself in the 339th place, to the Przyjazn Spinning Mill in Zawiercie (335th place), or to the Voivodship Agricultural-Industrial Enterprise in Gorzow Wielkopolski (373rd place). By contrast, the biggest losers, whose names were deleted from the list, included the Zinc Plant in Tarnowskie Gory, metal rolling mills in Gliwice and Czechowice-Dziedzice, the Silesia and Skawin metallurgical plants, and the Bedzin Iron and Steel Plant. Further, the rankings of old acquaintances have become reshuffled: the MERA-ELZAB Computer Plant in Zabrze, which has no equals, climbed 195 points to the 303rd ranking. The Szczecin Chemical Works rose 123 points to the 180th ranking, followed by the Bilgoraj MEWA which climbed 117 points to the 232nd ranking, the Lodz FENIKS, which rose 109 points to the 164th ranking, and the Krapkowice Pulp and Paper Works, which rose 106 points to the 360th ranking. As for the Top Ten, they consist of, in addition to the aforementioned MEGAT and POLMAG: POLMOS, which markedly outpaces in volume of sales (474,918 million zloty) the Plock Petrochemical Refinery, the Lenin Iron and Steel Plant, the Katowice Iron and Steel Plant, and the Lubin KGHM and FSM [Compact Car Factory] -- in the same sequence as a year previously. Seventh-ranking is the Warsaw FSO [Passenger Car Factory], which dislodged to the eighth spot the Gdansk Refinery, while URSUS [Tractor Plant] remained in the 10th spot.

If the respective ranks and positions of individual enterprises are viewed from the standpoint of the influence exercised on this list by the whole of their economic performance, the conclusions are not cheerful. Of course, it is possible to select from the "Five Hundred" a group of enterprises -- a rather small one -- for which the ratios among the growth rate of sales, labor productivity, and wages correspond to the attempted and desirable proportions, but in a majority of cases such proportions can hardly be perceived. A particularly acute lack of such proportions obtains for the enterprises with the lowest, negative dynamics of sales. The Paris Commune Shipyard, ranked 167th on the list, provides the most drastic example: sales 77.8 percent, wages 129.8 percent.

In such a situation it is readily seen that the volume of sales was most influenced by the rise in the prices of the products manufactured. This is

besides confirmed by the data of the ministry of finance, from which it ensues that in 1985 the overall increase in accumulation at industrial enterprises was to the extent of more than 80 percent due to price increases. This is reflected in the ratio of the index of the growth in the value of output sold in current prices, which last year was 20.9 percent, to the analogous index in constant 1982 prices -- only 3.8 percent. It merely suffices to add that at the same time the State Prices Inspectorate questioned 20,500 price calculations of the 51,600 it audited, that is, nearly 40 percent. The undue incomes thus achieved augmented the funds available for wage increases to an extent markedly exceeding the growth of labor productivity, and often granted even in face of a decline in that productivity. As a consequence the growth rate of average nominal wage, 0.92 percent (in the previous year, 0.85 percent), for each 1 percent of growth in labor productivity, was incommensurately large.

It turns out that it also is possible to rank among the Top Ten even though this is in no way justified by the ratio of wages to labor productivity, and the subsidies then received are far from being a favorable testimony. An enterprise may also occupy a quite high rank on the list regardless of the share of exports in its output sales, and thereupon live well by benefiting from imports without exporting anything or much. On the other hand, it is not always sufficient to export much in order to pay good wages. This is exemplified by the Ostrzeszow PONAR (share of exports 84.16 percent, rank on list: 4th in profitability, 22nd in labor productivity, 280th in wages). Our largest exporters, the enterprises which export more than 80 percent of their output are, in addition to the aforementioned PONAR, the Gdansk shipyards (Northern and Lenin), and the Grzybow SIARKOPOL, while the enterprises exporting more than 70 percent of their output are: the Tarnobrzeg sulfur mines, the United Nuclear Equipment Plants, the RAFAMET, the Bialystok BIAL, and the Nysa ZUP, followed just a little behind by the three plants of POLFA in Starogard Gd., Jelenia Gora, and Grodzisk Mazowiecki. It can be said of our largest exporters that in general they are mid-sized enterprises so far as employment is concerned, their accumulation is quite high, their financial performance is good, and they operate very profitably and display a high labor productivity, and also that they pay average and sometimes very good wages and do not receive subsidies (except the Tarnobrzeg SIARKOPOL).

For the Top Ten no major changes were recorded so far as financial accumulation is concerned, which is coupled with stagnation or even regression in that accumulation. Only the URSUS and the Wroclaw PONAR can boast of a marked growth in accumulation and in a faster growth rate of accumulation than of sales. Hence the conclusion that only two enterprises among the Top Ten have reduced their production cost. At the other enterprises, financial situation has deteriorated. All this makes sense because it is known that for industry as a whole output increased by 20.9 percent but production cost increased by 22.4 percent. This also is confirmed by the "Five Hundred" as a whole for which the growth rate of sales was 120.6 percent but the growth rate of accumulation only 115 percent.

Somewhat greater changes can be perceived under the rubric of financial performance. From this standpoint, four enterprises dropped out of the Top Ten, being dislodged by four others (again by MEGAT and POLMAG, among others),

but generally speaking for the "Five Hundred" as a whole, financial performance has been growing at a faster rate than sales and accumulation. This means strong inflationary tendencies. Closely related to this rubric are the data on financial obligations, and especially on the turnover tax and subsidies. As known, this year overall financial obligations increased by 24.2 percent, and the list specifies the amounts of, e.g., turnover tax paid by discrete enterprises. The biggest taxpayer is POLMOS (403,132 million zloty), followed by the Plock Petrochemical Refinery, which paid "only" 76,992 million zloty, and in that order by the Gdansk Refinery, and the FSO and the FSM (more than 17 and more than 10 million zloty, respectively). In a word, the "spirituous" and the automotive enterprises indirectly are the biggest contributors to the state budget, which in its turn spares no subsidies (which again increased by 21.4 percent) for unprofitable production (of food also) by unprofitable enterprises: the first 15 of the "Five Hundred" enterprises received 88,107 million zloty in subsidies compared with 64,562 million in the previous year. Those who suck in the most copious "draughts" from the Exchequer of State include the Chemical Works in Police, district enterprises of the meat industry, several state grain plants, the Kruszwica Fats Industry Works, the Pulawy AZOTY Nitrogen Works, the Zabrze Byproduct Coke Combine, the Katowice Iron and Steel Plant, and the Tarnobrzeg SIARKOPOL.

A few more comments, unfortunately pessimistic ones, on the development funds. On the basis of the "List of the 500" it is hard to say who and why is seriously entertaining the notion of development, but a fragmentary comparison of net profits, deductions to the development fund, and gross value of fixed capital at certain enterprises indicates that many of them are unable to finance even the reproduction of their fixed capital prior to its complete depreciation. This information, combined with the aforementioned data on the growing financial obligations, says a lot and raises the question of the future of these autonomous self-financing enterprises. These are only some of the questions and doubts raised by the "List of the 500." For the time being, there is nothing left but to await the next lists in the hope that they will begin to indicate -- the sooner the better -- desirable changes consonant with the spirit of the reform, and that these lists will have no room for those who are unable to cope with the hard rules of real economics.

1386

CSO: 2600/62

ECONOMY

POLAND

## STRUCTURE OF HARD CURRENCY IMPORTS ANALYZED

Warsaw ZYCIE GOSPODARCZE in Polish No 41, 12 Oct 86 p 5

[Article by (S.L.): "What We Are Spending Dollars On"]

[Text] In my article, "The Ice Dam" (ZYCIE GOSPODARCZE, No 37, 12 Oct 86) I described the causes of the collapse of the system for calculating foreign exchange deductions for exporter enterprises. It argued in favor of strengthening decentralized imports and at the same time restricting the imports conventionally termed central; this is a postulate that is quite commonly accepted. Following the publication of that article I have been asked what are central imports, what do they consist of, and whether their curtailment would mean curtailment of purchases of grain, coffee, and -- God forbid -- medicines? Hence some information on the structure of our foreign-exchange imports in various cross sections is offered below.

Let us recall that in 1985 hard-currency imports amounted to nearly US\$4.6 billion (were 5.1 percent higher than in 1984). As for imports financed from the foreign-exchange deductions [allocations] to state enterprises of the processing industry, they amounted to US\$672 million (an increase of 2.5 percent), and thus they accounted for nearly 15 percent of all dollar imports. If we add to this the imports financed from the hard-currency funds of other enterprises and various other organizations, their combined share was about 23.3 percent. According to data for the first 6 months of this year, this indicator has risen somewhat (to 24.1 percent). But it should be borne in mind that hard-currency accounts (so-called special or targeted accounts) also are maintained by certain ministries (which will be discussed shortly). The share of imports by enterprises, i.e., of decentralized imports in the strict sense of the term, is thus somewhat lower than might seem from the above indicator.

The largest proportion of hard currencies is spent on the acquisition of so-called centrally financed goods. Their list and amounts of purchase are specified by the CPR [Central Annual Plan]. In 1985 more than US\$1.9 billion was spent on this purpose, which accounted for more than 40 percent of total imports. This year, following recent revisions, these goods will cost about US\$1.862 billion. We shall return to an analysis of that list.

A substantial amount of hard currencies for imports is available to branch ministries. This refers to funds for the implementation of operational plans

and government orders as well as to specified amounts for other purposes. In 1985 altogether about US\$341 million was spent on four operational programs (health protection, transportation, supply of machinery to agriculture, and children's clothing), with most of that amount being spent on the program for health protection. Government orders cost about US\$153 million. The remaining US\$294 million was spent by branch ministries (not only the industrial ones) for other purposes. Thus, altogether, they accounted for about 17.5 percent of total imports. To this should be added the imports financed from ministry hard-currency accounts. These are accounts of various kinds. For example, the Ministry of Mining and Energy has at its disposal a proportion of the hard currency profits from coal exports. Several special accounts are maintained by the Ministry of Chemical and Light Industry (e.g., part of profits from fertilizer exports, to be spent on the acquisition of equipment for that subsector). In its turn, the Ministry of Metallurgy and Machinery Industry was credited last year with part of the foreign-exchange profits from plan-exceeding copper exports. Itemizing expenditures from these accounts is not easy, because statistics combines them with ROD [Retained Hard Currency Allowance] expenditures. But it may be assumed that the ministries on the whole were allocated in 1985 more than one-fifth of the foreign exchange to be spent on imports, that is, as much as the total allocated to all enterprises and other organizations authorized to retain part of their hard currency profits, in special accounts. For the sake of fairness, let us add that this year the industrial ministries are no longer allocated hard-currency quotas for so-called general purposes.

About 10.5 percent of payments for imports is classified in statistics under the rubric "Miscellany." This consists of, among other things, imports for re-export, unidentified linked transactions, compensation payments, etc.

Also under this rubric are marginal expenditures such as the cost of the promotion of exports (US\$58 million), imports for exports of construction (US\$38 million), and imports for central investments (US\$12 million). Imports of social and cultural services amounted to about US\$58 million or a little more than 1 percent of total imports.

The structure of imports, as divided into producer goods, consumer goods, and investment goods, reveals that the first type of goods definitely predominates. The plan for this year envisages the share of imports of producer goods at about 80 percent (US\$3.9633 billion), consumer goods at nearly 10 percent (about US\$471 million), and investment goods, about 7.5 percent (US\$370 million). But both last year and during the first 6 months of this year it turned out that the actual imports of producer goods have been lower than planned, while the imports of investment and consumer goods have been higher than planned. In the first 6 months of this year we spent US\$218 million on the acquisition of investment goods, which accounts for 59 percent of the annual plan in this respect. This was moreover 13.3 percent higher than in a like period last year (for 1985 as a whole the volume of the dollar imports of investment goods increased by about 36 percent). The highest growth rate is displayed by imports of consumer goods. In the first half of this year US\$457 million was spent on this purpose, which is equivalent to 97 percent of the annual plan in this respect, and which was 64 percent more than during the first half of 1985.

For those who care to know, below is some information on the branch structure of hard-currency imports. In 1985 products of the electrical machinery industry accounted for about 26.5 percent of these imports; chemicals, 22 percent; agricultural and food products, 19.5 percent; light-industry products, 10.7 percent; metallurgical products, 9.9 percent; and fuels and energy, 5.5 percent. When this is compared with the subsector structure of our dollar exports, it turns out that, so far as trade with the Second Payments Area [capitalist countries] is concerned, we are at present net exporters of electrical-machinery products, fuels and energy, and products of the pulp and paper industry. We also have a slight surplus in trade in metallurgical products. In this connection, the obsolete structure of our metallurgical production results in that we have to export as many as four tons of our metallurgical products in order to earn the foreign exchange for importing one ton of these products. The greatest negative balance pertains to trade in chemicals and light-industry products, followed by trade in agricultural and food products.

To complement the above information, let us add that developed capitalist countries account for 70 percent of hard-currency trade; socialist countries, 17 percent (of which Yugoslavia about 8 percent and the CPR about 5 percent); and the so-called developing countries, only 13 percent. In this context, it is also worth noting that nearly 25 percent of our hard-currency exports are not, strictly speaking, exports paid for in convertible currencies; rather, they are exports within the framework of clearing agreements, various linked transactions, payments of indebtedness, etc. Undoubtedly, this complicates achieving a surplus in the balance of payments.

Let us now discuss the largest factor in imports, namely, the list of centrally financed goods imported. The 1986 Central Annual Plan specifies 77 such goods. It is envisaged that US\$2.4 billion will be spent on their imports. Following mid-year revisions, this list was somewhat expanded (by including, inter alia, imports of butter, processed cheeses, pipe, petroleum coke), but the overall quota was cut to US\$1.862 billion. These cuts were not applied to all the goods; on some of them we will spend more than planned. Consumer goods were protected. More than US\$155 million, or half as much again as was originally specified in the Central Annual Plan, will be spent on imports of tea, coffee, rice, Southern fruits, and "plan-exceeding" butter and cheese. Thus, the imports of these consumer goods will altogether account for about 8.3 percent of centrally financed imports. Imports for agriculture also were treated more leniently. To be sure, we shall spend much less on grain imports (the Central Annual Plan envisaged US\$345 million on this purpose, but we shall spend only US\$210 million, compared with US\$275 million last year), but we shall spend more on feed grain and oilcake (the US\$236 million originally envisaged for this purpose in the Central Annual Plan was revised upward to US\$272 million). Noteworthy also is the priority given to imports of crop protectants (revised upward to US\$110 million from US\$87.5 million), as well as of pharmaceuticals and prepared drugs. To be sure, these are not named on the list of centrally financed imports of goods, because they are financed from the program for health protection, but it is worth knowing that their imports will exceed US\$200 million, of which one-half will be prepared drugs.

The preferences given to imports of goods for consumers and agriculture meant that, of necessity, the imports of producer goods were cut more severely. Only 67.3 percent of the originally planned amount will be spent on imports of 20 raw materials and semifinished products for the metallurgical and machinery industries (chiefly metals, or ores of these metals, metallurgical products, electrodes). Similarly, only about 71.5 percent of the originally planned amount will be spent on imports of 38 chemicals and light-industry products. In isolated cases the gap between the financial plan for imports and its fulfillment will not affect the physical quantities of the purchases. For example, nearly US\$300 million had been envisaged for procuring crude petroleum from the CPR, but actually we will spend barely more than one-half of that amount considering that this year the price of crude petroleum has declined drastically so that the planned size of imports of crude will not be imperiled. In a majority of cases, however, the cuts in imports are due to the hard-currency shortage and affect the physical quantity of imports.

The considerable gap between the size of imports envisaged in the Central Annual Plan and the actual imports is nothing new. In 1985 the plan for the central imports of goods, amounting to US\$2.63 billion, was fulfilled barely 72 percent. Needless to add, this gap has tremendous consequences, considering that the amounts of imports specified in the Central Annual Plan are used as the basis for drawing up the balance sheets of the agencies mediating the trade in these goods and hence also for drafting the plans of the enterprises utilizing these goods. The consistent underfulfillment of the import promises given by the central planner to the enterprises is disorganizing the economy. This is, of course, due to the inadequate growth rate of exports. Even so, it is difficult to resist the impression that we are dealing here with all the negative aspects of so-called taut planning.

The plan for imports is always constructed to correspond to a plan for exports which is taut and, to be sure, mobilizing, but which is also, as it turns out, relatively unrealistic. It thus appears that in the future plans for central imports should be so designed as to allow for an appropriate safety margin. Import quotas established at lower but more realistic levels would assure enterprises of receiving in toto the supplies of particular commodities they were promised. The missing amounts of commodities would have to be acquired by enterprises with their own funds (of course, if the liquidity of payments from the ROD is restored). Should such more realistic planning result in surpluses of convertible currencies in the course of the year, these should be sold to enterprises upon negotiating with them the production of specified "plan-exceeding" output. This precisely would be a way of curtailing central imports as well as a factor contributing to a more effective utilization of hard-currency imports.

A separate problem is reducing the list of centrally financed -- and by the same token, centrally allocated -- imports of goods. Only raw materials and staple goods with a high degree of processing should be retained on that list. For the present, of the 80 centrally financed imports of goods, an overwhelming majority is constituted by goods whose imports cost annually less than US\$10 million and which serve to supply small groups of enterprises. An analysis of the possibilities for reducing that list is to be shortly undertaken by a task force of the Commission for the Economic Reform. May it succeed.



POLITICS

POLAND

REPORTS-ELECTIONS MEETING HELD AT DEFENSE MINISTRY

Warsaw ZOLNIERZ WOLNOSCI in Polish 7 Oct 86 pp 1,3

[Unattributed report: "The Party Member Must Always Be an Exemplar" surtitled "Reports-Elections Conference of Central Institutions of the MON [Ministry of National Defense]"]

[Text] (Our own service) "We must attend to adapting the tasks specified today to the needs and possibilities of our community, so as to utilize fully the effects of grassroots initiative and resourcefulness intended to strengthen the defense potential of the state and further improve the armed forces" -- this conviction served as the background for the deliberations of the 12th PZPR Reports Elections Conference of Central Institutions of the Ministry of National Defense, held on 6 Oct 1986 in Warsaw with the participation of Member of the Politburo of the PZPR Central Committee and Minister of National Defense Army General Florian Siwicki. Those taking part in the deliberations included members of the MON's leadership, heads of its central institutions.

The conference performed a thorough assessment of the activities of party organizations at central institutions during their past term of office and outlined the tasks ensuing for the next few years from the Resolution of the 10th [PZPR] Congress. New party officers were elected. The incumbent First Secretary of the PZPR Committee at Central Institutions of the MON Colonel Zdzislaw Jatczak was re-elected. The duties of the chairman of the Control and Audit Commission were entrusted to Colonel Zbigniew Rudolf.

Reflection 1: Within the central institutions of the MON everything should happen in the same way they desire it to happen in the armed forces as a whole. Hence also, they must be aware that responsibility for failures and mistakes in various aspects of the life of the armed forces burdens them to the same extent to which they share in every particular success.

The party organization at central institutions of the MON has opened its reports-elections conference with a record of substantial accomplishments in every domain of military service. For the party's monitoring and synchronizing activities at these institutions are a major factor in creating the proper ideological and defense-oriented state of mind throughout the armed forces. Hence also the importance and role of the PZPR elements active within the central institutions of the MON. This was stressed in the program and activity

report presented by First Secretary of the PZPR Committee at Central ed Institutions of the MON Col Zdzislaw Jatczak, which at the same time pointed to domains in which the effects produced do not as yet warrant complete party-minded satisfaction.

In the course of a wideranging discussion the delegates paid much attention to the lot of party members in previous years and the possibilities for implementing the resolutions of the Congress within their own communities. Their comments did not lack a critical view of, above all, subjective conditions of the work of party organizations.

Comrade Colonel Stefan Nowak: "Under our circumstances the principle of the close linkage of party work to service activity was verified. Further improvement is needed in the style of work of the executive boards of POP's [basic party organizations] and the Committee, with the object of drafting resolutions in more precise language, determining in detail the stages and deadlines of implementation, and identifying persons responsible for their fulfillment."

Colonel Czeslaw Staciwa: "The PZPR Program plainly stresses that the fulfillment of economic plans, the technological modernization of the country, and the development of the society have to be dependent on the state of consciousness of the society. We are aware of the significance and special role of activities in this domain. This is demonstrated for example by the slogan-postulate, "Every Officer an Educated Marxist," being implemented in the army ever since the First Ideological Conference of the Armed Forces.

"At the present stage is particularly necessary to consolidate within army communities active, open prosocial attitudes. At the same time, both in organized activity and in any life situation, we should consolidate deep conviction and faith in our ability to overcome all difficulties and implement the ambitious programs drafted following the Congress.

"The currently implemented 'Program for Implementing Within the Armed Forces the Tasks Ensuing from the Resolution and Materials of the 10th PZPR Congress for the Years 1986-1990' represents the translation into reality of the inspirations of the program plank of the Congress. This made it possible to draft future tasks in whose implementation the army can participate effectively, and to determine the goals which should be pursued in every military community.

"The Program comprises measures relating to party-political work, combat training tasks, organizational and mobilizational activities, streamlining of management systems, and an efficient management of military resources. It also makes allowance for investing and financial activities. scientific research, technological progress, personnel management, health protection, and social and consumer affairs."

Brigade General Zdzislaw Stelmaszuk: "Each of us must find his place in the domain of implementing the tasks posed to us by the 10th PZPR Congress. There is no doubt that they are particular and extremely demanding requirements. What was good in the past must be better at present and may be unsuitable in

the future. There is a need for a new look, with respect to both the planning and the implementation of measures. Above all, independent thinking that distinguishes between progress and make-believe actions is indispensable. We must thus explore latent potential wherever it exists, above all in those domains of action in which effects can be achieved without additional financial outlays."

Brigade General Jan Wojtala: "The issue of steadily streamlining the performance of military bodies is not a new problem to us. We have always been regarding the streamlining of organizational structures and tables of personnel, especially of command and management personnel, as a continuous process. For this is the requirement posed to us by the need to safeguard specific operating conditions of the armed forces. This is demonstrated by the related measures taken within our ministry already thrice during the last 15 years. We are thus in the favorable situation of already having some experience, and hence we can avail ourselves of the positive effects of streamlining measures taken so far and at the same time avoid possible eventual mistakes."

Reflection 2: The principle of single-leader command is mandatory and closely adhered to in the armed forces. On a broad scale it is inspired and supported by the party's actions and collegial social and scientific consultations. This serves to resolve optimally the difficult problems of streamlining the army's structures and improve the organization of military service and life and enhance their effectiveness.

The fundamental question to which an answer was sought by the conference participants sounded as follows: how can the short- and longrange tasks outlined by the Congress's decision be implemented more effectively, efficiently, and rationally? The topicality of this question ensues from the methodological inspiration of the Congress and applies to every party member, every POP and every party echelon. Answering this question is regarded by the comrades from the central institutions of the MON as a particular party and service duty.

Taking the floor, the Chief of the GZP WP [Main Political Directorate of the Polish Army] Division General Dr Tadeusz Szacilo stressed that, among other things:

"As outlined at this conference, the picture of the party within the army is highly positive. We have ideologically cohesive, politically mature, and organizationally efficient party organizations. Their strengthening is promoted by the Congress campaign. The universal perusal of the documents of the 10th Congress in the context of current and longrange tasks of the army has promoted substantially the shaping of the awareness and attitudes of our comrades. It has enabled them to cognize and understand better the dilemmas being faced by this country, to enter more deeply into the sphere of defense matters and, on this basis, it has released in them that proactivism which is indispensable to the solution of specific service and social problems.

"We are familiar with the principal duties facing the armed forces. From the Congress tribune they were discussed by the Minister of National Defense

Comrade Army General Florian Siwicki. They are primarily the defense and strengthening of security of this nation by maintaining at a high level all the factors of combat readiness and strengthening coalitional cooperation with the Soviet Army and the armies of the other Warsaw Treaty countries.

"We shall continue to take an active part in this country's economic life and in fostering science and technology progress, upon focusing intellectual and organizational potential on those sectors of societal needs on which it can produce the most desirable effects.

"Concerning the intentions of our Ministry, at this conference various interesting notions, comments, and proposals were voiced," the Chief of the GZP WP continued. "Allow me to concentrate my attention on two groups of problems whose solution should be actively supported by party activity.

"The first group, which comprises measures to strengthen the combat readiness of the army, includes the following tasks: application of modern command and training techniques; strengthening single-leadership command and combining it with the development of socialist democracy; consolidating masterly skills in the operation of combat equipment and its maintenance at a high technical level. Major remaining tasks are: improvements in rational management, increasing the importance of science and technology work and the effectiveness of the application of research, improving personnel selection policies, reviewing workstations, and increasing concern for the individual.

"As for the second group of problems, which pertains to party-political activities, here our attention should be focused on the ideological and organizational strengthening of the party's position, especially as regards the basic party organizations," the chief of the GZP WP stressed. "In the field of party-political work our task of strategic importance is to further strengthen the social authority of the army as a major factor in the sociopolitical stabilization of this country.

"The next task is to improve indoctrination and link it to the nature and resolutions of the 10th Congress. We shall place special emphasis in party-political work on: attaining a higher level of Marxist-Leninist knowledge among the regular cadre, strengthening friendship and brotherhood of arms with the Soviet Army and the armies of the other fraternal socialist countries, nurturing high ideological and civic values among military personnel, achieving marked progress in the humanization of interpersonal relations, attaching great importance to inculcating in military personnel the feeling of honor and dignity of the soldier, and educating young military personnel in the patriotic and internationalist spirit.

"The synthesis of syntheses and fundamental praxiological guidepost for our post-Congress actions is the requirement of effectiveness. This concerns all levels and services. To cope with the tasks, emphasis should be placed on innovations, on unconventional operating techniques, on accomplishing goals by the most elementary, least costly and most effective methods.

"As party members, soldiers, and citizens, we must focus on unremittingly strengthening the prestige of our armed forces and building up Poland's authority on the international arena."

At the conference, Member of the Politburo of the PZPR Central Committee and Minister of National Defense Army Gen Florian Siwicki delivered the following address:

"The party organizations, which we are creating together, and their executive boards and committees elected 3 years ago have since then passed through successive classes of the good school of ideological toughening, political struggle, and constructive work. They have experienced the taste of successful battles and campaigns as well as the bitterness of failures and perils. They have learned to close their ranks, to repel massed attacks by the enemy, and to support the implementation of extremely complex service tasks.

"In this way, in struggle and in work, in concrete action, was translated into reality on our soil the famous slogan that the party must renew and strengthen itself as 'the same yet not the same.'

"We are now no longer the same party organization at leading and central elements of the army as that which used to exist 3 years ago. We are an organization more mature ideologically, wiser in the ways of political struggle, more experienced, solidly rooted in the realities of the life of the country and the army. We are more aware of tasks and difficulties, opportunities and perils, more familiar with the external and internal conditions under which we have had to work to create the premises for the stabilization of this country and to strengthen the defensive might of the state and the combat readiness of the people's army.

"The prime mover and organizer of party work has been the idealistic, devoted, and professionally well-trained party aktiv, along with executive boards and committees, including the PZPR Committee at the Central Institutions of the MON whose term of office is expiring today. It is to its great credit that the institutions and the units subordinate of them have been effectively implementing the tasks ensuing for the Ministry from the resolutions and directives of the party leadership.

"The Committee outlined correctly the main directions of party work, imposed proper organizational forms on that work, and created good models of the Leninist style of action.

"It has actively cared for a high moral and political state of party and service collectives, for raising their political consciousness and consolidating trust in the program and policies of the PZPR. It has introduced in the service party-minded sensitivity and responsibility for the solution of the defense problems of the State as well as for training-educational, technical-economic, and organizational-mobilizational problems of the army.

"The pulse rate of party work during the Congress campaign was high, but following the Congress too we did not have a day of rest. We accomplished a

tremendous amount of propaganda and study work. Through the dint of considerable effort the leadership of party institutions and aktiv worked out a schedule of the principal tasks ensuing to the army from the decisions of the Congress.

"For this high party activism, for effective service performance, for fostering the ideological motivation of personnel for conscientious service and social work, in behalf of First Secretary of the PZPR Central Committee and Commander-in-Chief of the Armed Forces Comrade Army General Wojciech Jaruzelski and in my own name I wish to express thanks to the party aktiv at the central institutions of the MON as well as to the members of the Party Committee and the Party Control Commission whose term of office is now expiring.

"Given the nature of their work, the party organizations at the central institutions of the MON largely deal with problems of planning the development of the armed forces and their operation in the strategic dimension. This means that not only the organizational shape of the army but also the effectiveness of utilization of the resources placed at our disposal depend on us. The party's behest obligates us to promote conservation and increasingly streamline management.

"This should be assisted by a bold and principled approach to reviewing the structures and the unique nature of job certification within the military. Technical innovations, even if introduced selectively and on a limited scale, are becoming increasingly expensive. We also want to steadily improve the living standards of military personnel and increase concern for the cadre. To cope with these tasks, we have to find bold solutions that would assure the accomplishment of our goals without increasing the military budget. In addition, more effective services should be provided to the national economy through concentration of effort and by serving as a model of organization of labor and solidity of execution.

"We must draw upon the indispensable minimum share of national income for the army in a civic-spirited and responsible manner, and multiply each allocated zloty by the wisdom and thoroughness of our actions. It is largely up to us at the central institutions of the MON to achieve success in fulfilling these obligations.

"Every mistake, every omission, every inaccurate decision at this level entails considerable moral and material losses, and even consequences in the form of failure to attain the postulated indicators of combat readiness. Hence, we must have nothing but the best here: a high professionalism and competence, deliberation but also audacity, the highest idealism and party-mindedness, the best organization and discipline, optimally correct interpersonal relations. We all must strive toward such a condition of the central institutions everywhere.

"The party organization also must strive toward these goals. It cannot immure itself within the confines of the problems of its own community relating to the internal life of the institutions. It must operate with allowance for conditions and consequences affecting the entire army. For it is a social

institution that codesides and is coresponsible for specific concepts and operating conditions of the institutions. Its activity is intended to promote streamlining the performance of the command elements of the army and enhance their effect on the armed forces.

"The quotidian collective wisdom of the party organizations is needed by both persons entangled in mundane personal problems and the military leaders and commanders. It is also needed by single-leadership command in the contemporary interpretation of that command as the art of basing one's decision on the collegial wisdom of the party collective and theoretical advice.

"We must continue to enhance the importance and influence of the party factor on the entire course of the service. But to this end a turnabout toward the basic party organizations has to be made. They cannot remain on the periphery of our principal interests, because it is within their domain that everything that matters most is happening. Here personal doubts and conflicts make themselves felt, but here too ideas for streamlining performance and service are conceived.

"The 10th Congress stressed mightily the need to energize basic party elements. We consider this a behest to work on enhancing their importance in our party and service life. Basic party organizations have much to accomplish in the field of ideological and political indoctrination. They must be more sensitive to symptoms of a kind of political vacillation or neutrality. They must fight for the moral purity of individuals and counteract parochialism, greed, dishonesty, and disloyalty in service and personal relationships. A person who violates party and soldierly ethics must feel badly within the party organization and among his service comrades.

"Party members working at the central institutions should always and everywhere provide an example of the communist. Otherwise, they harm the service, the army, and the party. We must influence subordinates in military districts and units by our knowledge, modesty, and culture. But we also must influence them by our principled approach toward combatting abuses, by the objectivity of our appraisals, and by a well-meaning approach toward personal concerns and troubles."

Reflection 3: The Reports-Elections Conference of the PZPR at the Central Institutions of the MON outlined the goals for the future. The adopted resolutions and program obligate all party members and candidate members and all party organizations. The time to act has come. For it is not words but deeds that will remove from the agenda previously unsolved problems. The tenacity with which all will translate into reality the adopted decisions is the decisive factor. With this conviction, the conference participants are commencing the implementation of new tasks.

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